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Transportation policies and their effect on small towns

Joshua C. Barbee
Iowa State University

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Joshua C. Barbee

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Arvid Osterberg, Co-major Professor
Gary Tartakov
Ivan Suen

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Graduate College
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This is to certify that the Master's thesis of

Joshua C. Barbee

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PREFACE

In 1956, President Eisenhower drastically changed the course of transportation by selling the Interstate Highway Program to the United States. Although this program directly answered the future of transportation for the U.S., it indirectly produced new land use patterns in the process.[1] Since the implementation of the Interstate Highway Program, the United States have continuously invested heavily into the Interstates and highways, primarily within and around the metropolitan areas. As the Interstates tapped the metropolitan areas, an escape route was essentially provided for the large population masses wishing to flee the city. As a result, the small towns located along these Interstate corridors receiving these masses have reaped the direct benefits of the Interstates. For years, city councils within these small towns were pleased to see the population growth occurring within their communities since it brought new development and taxes. However, as growth channeled development and taxes into these small towns, it did so at the expense of the small town's layout and design. When growth occurs in the United States, it does not account for preservation; rather, growth disrespects preservation by encouraging outward expansion and low-density development. And since the automobile plays the dominant role in insuring this type of growth (since it holds the key in fueling the U.S. economy), land use policies over the years have catered to the automobile, primarily by giving the car it's space. It must be understood that small towns were originally developed around the pedestrian; however, as the automobile continues to carve its way through the fabric of small towns, the automobile continuously wins when it comes to scale. More and more, roads and parking lots are endlessly built to fulfill the automobile's needs (efficiency, convience, and performance). As

a result, small towns find themselves deprived of the unique places once cherished and celebrated among social activities, these places were ultimately handed over to the automobile. A famous example is the courthouse square. It is not uncommon to drive into a courthouse square to find parking lots immediately surrounding the courthouse; at one time these parking lots used to be green spaces. What was once an area to congregate and socialize in is now a parking lot or widened road allowing slow moving vehicles spew noise, congestion, and pollution.[2]

The word "growth" used to mean better jobs, more shops to choose from, more social opportunities, better schools, and a healthier quality of life. Recently it has offered a whole new meaning; traffic congestion, higher taxes, air degradation, social and economical segregation, crowded schools, and the paving over of our landscape.[3] Most importantly, however, growth has been strongly attributed to lost time and money. As more time is spent behind the wheel, shipping costs add up, real-estate values decline, medical expenditures rise due to poor air quality and growing obesity.[4] And these costs continue to multiply every year since those wishing to escape from all of the downsides of growth, aggravates the problem more by moving further out into the countryside, thus sustaining the very growth they are trying to get away from.

When transportation allows the development of low-density housing, retail, and commercial areas, the developments always occur on the fringes of town, never within the *altstadt* of town. In short, to access these developments you must have a car. As stated previously, commuting alone creates a wealth of problems: traffic congestion, social isolationism, air pollution, high costs of public services, and economic segregation to name a few. Small towns simply are not equipped with the resources to solve these problems

successfully. When analyzing traffic congestion, planners right away try to educate others that the congestion could have easily been mitigated under proactive planning. However, the average small town does not employ a planning staff, or even a planner, to actively promote proactive planning. As a result, proactive planning doesn't occur.

While development and growth is attracted to the sides of the arterial road serving small towns, traffic congestion increasingly becomes a problem. This is due to two reasons; first, as traffic continues to increase in density due to the rising auto-scale development, the arterial roads simply cannot handle the increased density of cars, thus contributing to congestion. The arterial roads were simply not engineered to handle these types of growth (such as turning lanes). Second, drivers wishing to drive from point A to point B may not have any other choice but to drive to point B on the major arterial road, since all of the destinations have either been relocated or spaced out within the arterial influenced developments. As a result, traffic becomes congested as drivers cautiously brake for other drivers entering and leaving each parking lot serving the individual stores (traffic can also congest due to a driver deciding to drive ultra slow). These stores generating traffic along the arterial roads used to be agglomerated within a Central Business District with central shared parking, now each of these stores employ individual parking lots. As development continues, strip malls soon arrive. After the strip mall and mammoth gas station, large boxes emerge (WalMart, K Mart), then follows another housing development, a new school, and another strip mall, etc. It comes to the point where it becomes quite embarrassing when living in a small town, you have to drive to buy a gallon of milk or to the "Main Street" café for lunch, even when its down the street.[5]

This is kitsch when parents now sacrifice more time than ever on the Interstates to live further out in a small town so their children can enjoy the amenities of small town life. However, as transportation and land use policies continue to change the make-up of small towns, parents soon find themselves wasting their evenings and weekends having to drive themselves all over town to do simple errands, such as buying toilet paper. They also find themselves having to drive their children to their friend's houses or to soccer practice held at the new school built a mile outside of town. This is actually happening in small towns of 900 people.

As growth continues to unfold in a draconian manner, other activities begin to move out towards the fringes of town, important activities people won't realize how significant they are until they are gone, such as the Post Office, City Hall, and "neighborhood" school (which includes the football field for Friday night games). Two groups of people who really suffer the most are the senior citizens and children. Senior citizens can no longer walk to buy stamps, and children can no longer walk or ride their bikes to school. And although families do not want to live and raise their children in these types of communities, this is the type of environment they are being handed with today to raise their children in.[6] Planners and policy makers have two options, one is to continue with the current practice of transportation investments, land use patterns, and incremental growth; which all cater to the automobile; or they can adopt policies and make investments to guide better forms of development towards more desirable types of land uses, in which our cities will become sustainable.[7]

Small towns found within an hour radius of a metropolitan area, such as Des Moines, Iowa, are prime candidates for absorbing population growth. Small towns having good transportation access to a metropolitan area, such as Perry, Iowa, are especially prime

candidates for population growth. Many Americans find these small towns within the rural fringes of a metropolitan area quite attractive, since they are full of small town amenities, are surrounded by picturesque farmlands, and provide an abundance of affordable houses.[8] Furthermore, these small towns are close enough to the city for families to shop and enjoy cultural activities, such as a shopping mall, museum, and/or a zoo.[9] However, as this thesis will demonstrate, the small towns found within the rural fringes extending 60 miles from a major metropolitan area are not only primary recipients for population growth, but are recipients facing tremendous challenges. The most difficult challenge is the preservation of small town amenities and open spaces. Simply put, when town leaders allow the implementation of today's transportation and land use policies, they are most likely not aware of the consequences the investment or policy may have against a small town element, such as pedestrian activities.[10] And pedestrians are the very essence in stimulating a social environment; after all, more people in cars means less people on foot – as a result, schools, neighborhoods, and shops geared towards pedestrians suffer.[11] Because of this, small towns around metropolitan areas are loosing their "sense of identity" since these unique storefronts and vernacular neighborhoods are incessantly being invaded by homogeneous and monotonous developments geared towards serving the automobiles. And as a result, these small towns are being engulfed and transformed into Anywhere, USA.[12]

This thesis will postulate that unless a small town knows what they are doing when adopting a transportation policy, implementing a transportation investment, and adopting land use policies for future growth, a small town can easily be transformed into a suburb: in a social state, street design and layout, and the role of "Main Street". I will demonstrate throughout this thesis that street layout and design alone can indirectly facilitate all three of

these areas into transforming the community into a suburb, whether they want to be transformed or not.

CHAPTER ONE – INTRODUCTION

Throughout much of United State's history, Americans have continuously longed for the amenities found in small towns scattered throughout the countryside.[13] Surveys and polls consistently reveal three out of four Americans would rather live in a traditional small town with a complete "Main Street", instead of a city or a suburb.[14] When asked why, the majority of Americans contend they like the vernacular beauty, pedestrian-oriented layout, and socially interactive environment found throughout small towns, not the tract housing, strip malls, and corporate centers normally found in a suburb.[15] It is then not surprising to learn that the majority of respondents almost always concluded with the "*sense of belonging and community*" as their number one reason why they prefer small towns over cities and suburbs.[16]

In writing "Main Street Revisited" (1996) author Richard Francaviglia points out that small towns, particularly "Main Street" in general,

> symbolizes the past and perhaps the alleged sanctity and security that were part of earlier, slower times..."Main Street" has come to symbolize a place close to the people, people who have few pretenses and honest aspirations; and because it fuses images of place and time, it also symbolizes their past...because of this, "Main Street" has become one of America's most cherished images.[17]

However, while nostalgic Americans have romantic images of small towns dancing in the back of their minds, American metropolitan areas have increasingly continued to grow since World War II in terms of population and physical area. When the 1990 U.S. Census findings were revealed, the numbers illustrated for the first time in history more Americans now lived in suburbs than either the rural or urban sectors of the United States.[18] As a result,

the word "suburb" was officially accepted as a permanent vocabulary word in the world of planning.

Recent attention has been directed towards the encroachment of suburbia design practices invading rural areas, particularly small towns along efficient transportation corridors within an hour or less from major metropolitan areas. As the small town grows, traditional forms of rural life have been disappearing rapidly, including but not limited to: loss of locally owned businesses, loss of family farms, loss of traditional small town neighborhoods, and last but not least, the loss of "Main Street". Replacing these traditional icons of rural life are franchised businesses, homogeneous strip malls, monotonous tract housing developments, and corporate operated farms and feedlots. These new developments occurring within and around small towns have not only transformed the vernacular landscape of traditional small towns, but have also changed the overall *sense of community and belonging* found in these small towns.[19]

Hypothesis

Three factors ultimately determine a small town's transformation into a more urban form: recent transportation investments, types of land use policies adopted, and its overall accessibility in terms of transportation. If the small town is relatively large in population, served by a major transportation route, and fairly close to an urban center, the small town will most likely be a prime candidate for rapid uncontrolled growth. While the community experiencing transformation indirectly announces its prosperity and growth to the rest of the surrounding towns, the community is quietly fighting a losing infrastructure battle, trying to save its small town from being transformed into a suburb.[20] The history of transportation

demonstrates that the more accessible towns are to the auto, the more its growth is guaranteed and the sooner it will enjoy a suburb status.[21]

CHAPTER TWO – METHODOLOGY

A lot of small towns fail to realize changes initiated by urban principles can actually be suppressed or prevented. In preserving the overall design of small towns, especially "Main Street", communities do have the ultimate say on how and when they will be developed, redeveloped, or even preserved. The traditional "Main Street" communities which have vigilantly kept small town design principles, particularly preserving the overall integrity of "Main Street", have done so by successfully committing themselves in identifying and enforcing policies which encourage the nostalgic images associated with small towns.

This thesis will examine three traditional small towns located along an Interstate serving southwest Iowa. The three communities are: Glenwood, Missouri Valley, and Walnut. These three communities were picked due to their proximity to the Omaha/Council Bluffs metropolitan area. Each of these three communities is in the beginning stages of transition. They are transforming themselves from independence and sustainability to being dependent on the metro area as a locus of services and employment. Although these three communities have not yet become wholly suburbs, this thesis will analyze if such a transition towards suburbia has started to occur, and if so, how. Each of these communities represents a different type of small town in terms of direction of growth, type of economy, and population size. When analyzing each of the three communities, three different but related design principles were measured against a continuum outlining the difference between a small town and suburbia. After analyzing the three communities against the continuum, each community was then assigned as being a small town, an exurb, or currently being

transformed into a suburb. The three separate design principles analyzed in each of the communities are:

1. **Street Design and Layout.**
2. **Central Business District.**
3. **Socially Active.**

It must be noted that all three of these interlink with each other - for example, a socially active community is quite possible in a well accessible Central Business District from the surrounding neighborhoods. To adequately understand why these three design principles were chosen in carrying out this Thesis, each principle was addressed in Chapter 5.

The Council Bluffs/Omaha Metropolitan Area

These three communities were chosen specifically because all three are within an hour drive of the Council Bluffs/Omaha metropolitan area, all are situated along a major mode of transportation, and all are part of the advertised "Iowa's Profit Coast."[22] Most importantly, however, all three of these counties are part of a three-county marketing alliance covering southwest Iowa for economic development purposes, advertising themselves as the "Iowa's Profit Coast." This alliance markets themselves to prospective corporations, industries, and developers as a predominantly rural area served by natural and metropolitan influences: the Missouri River, the Interstates of I-80 and I-29, Omaha's Eppley airfield, and by the Union Pacific Railroad. Because of these qualities, "Iowa's Profit Coast" advertises themselves as being well served by the transportation sector, in which economic development and growth depends upon. "Iowa's Profit Coast" further advertises themselves as being part of the larger Omaha/Council Bluffs metropolitan area in terms of population, while much of the area immediately surrounding the metropolitan area is dedicated to

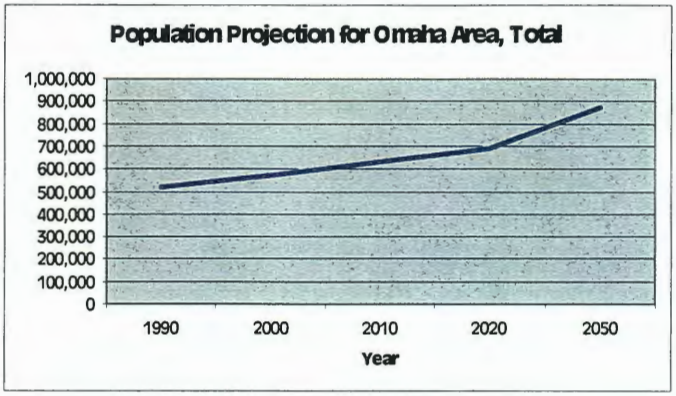
agriculture and rural communities.[23] And it is here where prospective companies would reap the nostalgicism of small town life.

Benefits are outlined by the three-county alliance, such as the cost of living compared to the national standard is 7.1% below average, and housing is 13.4% below the national average.[24] While the "Iowa's Profit Coast" markets its superior transportation access, its cost of living being below the national average, and rural amenities next door, these three towns were chosen for their overall results of past planning and preservation efforts in sustaining its small town design. To see a map illustrating the "hour radius" around the Omaha/Council Bluffs Metropolitan Area, see Appendix A.

The City of Omaha

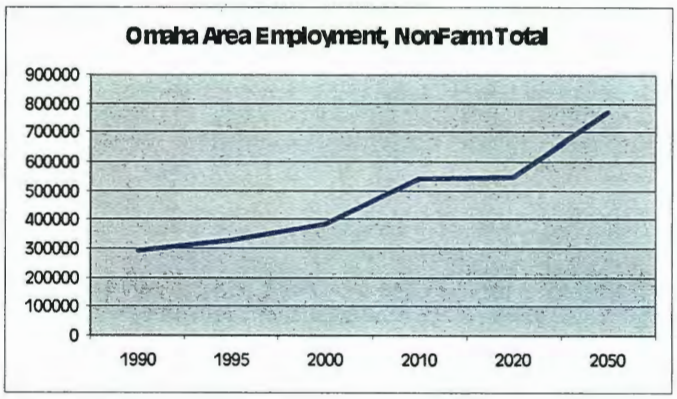
In June of 1999, the City Planning Department of the City of Omaha released a report entitled "Omaha Area Projections to 2050."[25] The report announced the City of Omaha will grow 69% by the year 2050. By the year 2050, the population of the city will be just under 900,000 people (see Figure 1). The report also indicates the City of Omaha will need to construct over 170,000 new housing units to keep up with the projected growth. Furthermore, the growth is expected to have a huge impact on the elderly, since this category alone is expected to increase in population of 89,537, or by 184%.[26]

Figure 1. Omaha's population projections for the year 2050.



In terms of employment, the report projects 480,000 new full and part-time nonfarm jobs will be created by 2050 within the City of Omaha (see Figure 1.5). The report then indirectly states the projected population will not be able to simultaneously fill the projected employment needs, up to 267,000 jobs will remain to be filled.[27]

Figure 1.5. Omaha's employment projects for the year 2050.



Seventy-eight percent of state and local officials rate the importance of a community being livable.[28] Because the new economy is changing how people are living, shopping, working, and where people are residing, people are increasingly looking beyond their immediate surroundings for the sense of community they are not receiving in today's suburbs, office parks, and shopping malls. Furthermore, as telecommunication continues to

allow high tech companies to loosen geographical constraints, companies are now making location decisions based on quality of life issues. While highways allowed the "sameness" formula to supplant itself across the United States, the electronic highway will precisely do the opposite.[29] If an individual or company can decide freely where to live or locate, why not in a town offering superior quality of life? Or most importantly, why not a small town with a sense of identity and community? Americans have repeatedly yearned for public spaces to congregate in, local shops to do business in, and safe neighborhoods to raise their children in. Furthermore, families want to live in an active "around the clock" community, not an 8 to 5 community that becomes a ghost town on nights and weekends.[30]

This can be good news or bad news for the small towns within the rural-urban fringes of the Omaha/Council Bluffs Metropolitan Area. The good news is the "incoming families" retreating from the Omaha/Council Bluffs Metropolitan Area will continue to sustain these small towns in terms of population and taxes. Furthermore, individuals and families already living in these small towns won't have to worry about relocating in another community since an abundance of opportunities for employment is forecasted within Omaha. But, while population growth can be good news for population purposes, the small towns will need to face the bad news, in fighting off "overnight" careless developers who are anxious to bring in quick developments. These are the very types of developments responsible for destroying the unique identity small towns took over a hundred years to establish; making these small towns at risk of becoming a monotonous suburb to house the future growth of Omaha/Council Bluffs population.

The Following Chapters

Chapter 3 is the review of the literature. In carrying out the thesis, nine sources were predominantly used. Two of the sources were used directly in carrying out the research, while the other seven sources were indirectly used in establishing the continuum and definitions.

Chapter 4 is an overview of small towns in general. In understanding the history and trends of "Main Street", the past and present needs to be investigated. "Main Street" is a compilation of residential, civic, and commercial buildings. However, with the advent of the automobile, the overall composition of "Main Street" has changed.

Chapter 5 is an overview of the definitions of exurbia, small towns, suburbia, and edge cities. After the definitions were outlined, a continuum was established for the Thesis's methodology.

Chapter 6 presents case studies of the three communities. Information was gathered by a variety of means. The predominant means of analysis was looking at aerial photos of each of the three communities from three different time periods, 1950s, 1980s, and current photos. After the street design and layout were analyzed from the photos, literature was reviewed and statistical data was analyzed. In addition, each site was thoroughly visited and interviews were conducted with town leaders and business owners through the local Council of Government. As each site was visited, the "Main Street" and neighborhoods within each community was walked, biked, and driven extensively. While walking, biking, and driving, observations and details was tape-recorded and then later typed out.

Chapter 7 is a comparative analysis of the cases studied to determine any similarities and differences among the three communities. This is done to determine if there is a correlation between transportation and the possible effects on different size communities. Some aspects will be compared to the sources discussed in Chapter Five, the review of the literature.

Chapter 8 is the conclusion. Discussion about transportation effects on overall communities and how it relates to "Main Street". Suburban influences are proliferating in small towns throughout the United States, planners and town officials should be cognizant of these issues, and aware of the possible impacts the influences can bring to the community.

CHAPTER THREE – REVIEW OF THE LITERATURE

In regards to traditional small towns being transformed into suburbia due to transportation policies and investments, few books have focused directly on the transformation of small town's design due to these influences. Two books, however, "Rural by Design," written by Randall Arendt (1994), and "Transportation Investment Policy and Urban Land Use Patterns," written by David Forkenbrock (2001), have indirectly focused on transportation policies and its effect on small towns. They both write in an advisory format on how small towns can embrace themselves to proactively plan for inevitable changes different transportation investments will bring. These two books have been used extensively in Chapter 4, and in shaping this thesis's methodology.

In developing the continuum used in measuring the transformation of small towns, four sources were extensively used. They are: "Streets and the Shaping of Towns and Cities," written by Michael Southworth and Eran Ben-Joseph (1997), "Neighborhoods and Suburbs," written by Andres Duany and Elizabeth Plater-Zyberk (1995), "Watch Out, It's Dangerous in Exurbia," written by William Lucy (2000), and last but not least, "Exurbia," written by Nichole Achs (1992). "Streets and the Shaping of Towns and Cities" provided a thorough history and background of streets layout and design, in terms of ideology and purposes from an engineer perspective. "Neighborhoods and Suburbs" took streets and layouts out of its engineering concept, and instead applied the ideology and purposes of streets and layouts towards the aspect of social sciences. "Watch Out, It's Dangerous in Exurbia" and "Exurbia" both identified the social, economical, and physical attributes on what constitutes an exurb. These sources were used in great detail in Chapter 5. Of the four

sources, "Neighborhoods and Suburbs," written by Andres Duany and Elizabeth Plater-Zyberk (1995), provided a very strong foundation for the overall continuum used in carrying out the case studies for this thesis, by not only illustrating what constitutes a "neighborhood," but what constitutes a "Main Street" as well. In fact, the monthly publication, "Main Street News," distributed by the National Trust's National Main Street Center, periodically draws on literature and movements influenced by the movement Andres Duany and Elizabeth Plater-Zyberk are a part of, the New Urbanism, to help illustrate ingredients constituting a healthy "Main Street".[31]

In implementing the overall foundation of the thesis, from an analytical standpoint, two other books and a paper have been written in regards to small towns. Although these three sources indirectly tout various reasons why rural design is on the verge of extinction, none of these sources directly call for an awareness of transportation policies and its influence on land use developments, which inevitably changes the layout of small towns. Nevertheless, the two books and one paper offered very strong opinions and reasons why small towns are being diminished and transformed, and have been used quite extensively in guiding and supporting the research for this thesis. The three sources are as follow: "The Urban Invasion of Rural America: The Emergence of the Galactic City," written by Pierce Lewis (1995), "Geography of Nowhere," written by James Howard Kunstler (1993), and "Main Street" Revisited," by Richard Francaviglia (1996). This chapter will outline the three sources to provide an insight on the overall thesis, and to also provide the reader an understanding of the current beliefs and reasoning why small towns are being diminished.

In "The Urban Invasion of Rural America: The Emergence of the Galactic City," written by Pierce Lewis (1995), the term "Galactic City" is introduced and defined to the

reader. Lewis adheres to the concept that because of the rapid emergence of the automobile, the spatial proportions of cities have been blown apart to accommodate and nourish this new machine.

Lewis reiterates throughout the entire article that our cities were transformed into a new whole form within one century to accommodate this new machine. All the traditional elements of a city still exist, but in a new designated geometric form, the "galactic city."[32] Rather than the city continue its role as a melting pot of a mixture of functions for pedestrians, the functions were forced to single out into separate areas to accommodate the efficient facilitation of automobiles.

The auto was not only a new mode of transportation, but a new chapter on spatial planning; no one knew how to continue traditional planning since the automobile blew up the scale on everything. However, efficiency and safety were prioritized to make sure the consumer society would indeed live out the proposed American Dream, to own a house in the suburbs. The suburbs, Interstates, and auto were all newly created and interconnected inventions brought upon planners and cities at once to make the American Dream a reality.

Central planning around railroads and "Main Street" are now a thing of the past. However, as our depleted Interstate infrastructure (and the state of our railroads) demonstrates the negative results today, it is apparent that planners, especially transportation planners, simply did not understand the fundamentals of zoning, Interstates, and autos to proactively plan sustainable communities.[33]

Zoning was relatively new, and there was plenty of land in the United States for zoning to be practiced on. As a result, sprawl inevitably took form since it was the quickest and cheapest way to ensure the American Dream. Furthermore, with the passage of the

Interstate Highway Act in 1956, developers, planners, engineers, realtors, and lending institutions were all give the green light to consume rural land at an alarming rate.[34]

In conclusion, Lewis ends the article by alluring to the idea that, with the increasing efficiency of transportation, suburban dwellers are now able to seek the rural lifestyle as a locational amenity. The residents are not looking for a community to reside in, but an alternative residential location.[35] This is the new American Dream. Lewis then wraps up the article by stating the "Galactic City" is something we will have to deal with and learn more since it is here to stay.

In the "Geography of Nowhere," written by James Howard Kunstler (1993), the reader right away is informed that it is because of our preferred single mode of transportation, the automobile, that our society has been dissolved of its vernacular qualities, especially within small towns. Kunstler boldly asserts throughout the book how the automobile has completely shaped our society into one gigantic Anywhere, USA. Just as Pierce Lewis acknowledged in his paper, Kunstler also states no one knew how far the freedom providing auto was going to transform the landscape. However, unlike Lewis, Kunstler insists it is not too late to slam the brakes on the auto-oriented development, insisting that we reverse the sprawl development back to livable communities where walking to the corner grocery store again can be a possible reality.[36] In fact, shortly after the publication of "The Geography of Nowhere," Kunstler wrote "Home from Nowhere," (1996) as a continuation of "The Geography of Nowhere," in which the entire book is dedicated in advertising the positive impacts of Neo-traditional Planning.

In both books, Kunstler provides the reader with plenty of detailed illustrations and scenarios on the consequences of allowing automobiles to prioritize our planning, especially

when combined with zoning. Several good points are brought up throughout both books. For example, since zoning has been written and practiced in a complicated manner, Kunstler argues no one knew what to expect. However, the consequences have been revealed, and Kunstler spends a great deal of time extracting and explaining the consequences throughout the remainder of both books. An auto dependent society was the result of zoning working properly. The number one goal of zoning is to minimize unhappiness. However, the only way to accomplish this is by spacing different land uses out into separate designated zones accessible exclusively by auto.[37] It is because of this, Kunstler argues, we were destined to live in a commuter society. As a result, those who do not own a car, such as children and elderly, are deprived.

Kunstler then continues to agitate the current zoning practice. The only way to continue implementing the current zoning practice to minimize unconforming land use is to *continue* using autos. However, by having an auto dependent society, new problems for planners and town officials do emerge. "Is it worth it?" Kunstler asks. As stated above, children and elderly are left out. Second, the auto diminishes the physical relationship between buildings on a pedestrian scale, thereby destroying the places themselves (the sense of place). Third, pollution is created in which a cost cannot even be assigned to, but everyone knows it is quite high. Last but not least, accidents and congestion are now a hazard in neighborhoods where one should be able to safely walk a dog. Yet, Americans cannot conceive their lives without their car.[38]

To help illustrate the arguments against zoning and automobiles, Kunstler compares a small town "Main Street" to a regional shopping mall. Since the regional shopping mall is a product of the automobile, Kunstler right away compares the auto shopping experience with

a pedestrian shopping experience. While the advantages of shopping malls are widely advertised to lure consumers, such as free and plentiful parking, climate-controlled atriums, quality franchised stores, security, cleanliness, restrooms, food courts, etc., shopping malls do come with an enormous disguised price. First and foremost, you have to own an automobile. Second but not last, the local economy shifts from one side of town to one side of the highway, thus transforming along the way from a local economy to a shareholders economy.

The consumer right away does not realize the mall is isolated, a car is needed to reach the shopping center. Furthermore, the mall is private, in which public transit is hindered. Buses are not only inaccessible, but even discouraged. It is not uncommon for mall operators to completely ban buses from entering the private parking lot, in which forces the transit to place bus stops along the highway surrounding the shopping mall for pedestrians without cars to access (once again, mainly children and elderly). Kunstler contrasts all of this by simply painting "Main Street" as a melting pot developed over a period of time celebrating different eras of styles. Furthermore, "Main Street" is local, central, and already configured into a community. Shopping malls were never part of the community, a product of sprawl that pays no respect to the community or pedestrians in terms of design, and lacks a complete social environment.[39] Overall, because of the locality and vernacular attributes associated with "Main Street", "Main Street" can be tailored to fit any community, when nourished properly. This is not only a commodity a value cannot be assigned to, but a commodity shopping malls simply cannot compete with.[40]

Kunstler ultimately allows the reader to decide which is better, an individualistic society dependent on a car which accomplishes the overall purpose of zoning, or a traditional

society where every community is rich in design, centered around the pedestrian, and consists of a sense of place.[41] Kunstler further adds that since our society has been subsidizing the auto for so long, concepts on what constitutes a real community can now only be experienced at Disneyworld.

In writing "Main Street Revisited," Richard Francaviglia (1996) orients the reader on the economy, attributing the economy as the number one reason why "Main Street" has changed. "Main Streets are a visible manifestation of the community's current economic, social, and political environment – and the overall condition of the American life in general."[42] Concluding in the same manner as Pierce Lewis, Francaviglia states our society will inevitably change, and it's something communities need to accept.

Throughout much of the book, Francaviglia writes in a conservative tone, more of a moderator standing between the automobile and the economy. However, by the end of the book it becomes clear Francaviglia supports the idea that economic trends have a much larger impact and role than the automobile when it comes to "Main Street". This leads to the quote written by Gary Mattson in "Small Community Governance: Some Impediments to Policy making" (1996), "If the economy is failing, then the village will fail simultaneously."[43]

What initiates changes throughout "Main Street", Francaviglia believes, is prosperity. In the past, when the economy was successful, business owners would spend the extra profit on the façade's lining the "Main Street".[44] The renovated façade, however, conformed to the current popular style. When this is done, prevalent building materials are chosen in which forms are dictated onto the building when applied. An architect usually "utilized the most accepted, least expensive, strongest, and otherwise the *best* materials, especially when these materials can be made to look like other materials or new styles."[45] For example, because of

the intro of automobiles, "Main Street" have become horizontally streamlined to accommodate the fast pace smaller car. Larger shop windows, auto-scale signs designed to be read from the street, broad plain facades, and parallel parking were introduced to accommodate the driver.[46] No doubt this had an effect on the overall style of architecture found throughout "Main Street" today. It is because of this, our "Main Streets" are a melting pot of different architectural styles constantly evolving and celebrating its time.[47]

Although Francaviglia favors the economy as the catalyst of the demise of "Main Street", he does admit shopping malls and strip malls are today's "Main Streets". In fact, Francaviglia goes so far to boldly state that shopping malls and strip malls have replaced yesterday's "Main Street". Although the automobile is acknowledged for this reasoning, Francaviglia states the real reason for these auto-oriented developments is because of efficiency – society does not have time to socialize, it is a post-consumer society constantly on the go.[48]

Worth noting, these three authors wrote about Disneyworld. In doing this, all three authors admitted the reason Disney's success took place is because our communities today lack a sense of place. Lewis reasoning for this was because it was a price our society had to pay in order to thrive in modern times. Francaviglia actually devoted an entire chapter on Disneyworld, to dissect and interpret the success Disney's Main Streets have brought the Disney Corporation. Kunstler, however, takes home the prize by blatantly nailing the reason why Disney was included,

> Disney built his original Main Street at Anaheim in the 1950s, just when highway strips began to replace Main Streets everywhere, when small-scale agriculture surrendered to industrialized farming, and mass merchandising started wiping out local commerce – in short, when corporate gigantism had started to kill off local economies and thereby destroy the character of small towns.[49]

CHAPTER FOUR – OVERVIEW OF SMALL TOWNS

Over the years, many theories have been developed on transportation's influence on land use. David Forkenbrock argues in "Transportation Investment Policy and Urban Land Use Patterns" (2001), that the value of a parcel of land is its accessibility, therefore, whatever type of transportation investment a community makes will substantially influence the land use patterns around the investment, and hence, have an effect in a way the community evolves.[50] For example, if a community invests in a bypass north of town, commercial activities will no doubt proliferate near the access point of this bypass, not south of town away from the bypass. If a community is not bypassed at all, but is instead allowed to widen its transportation corridor throughout the town, traffic will then be able to facilitate within the community more freely and with ease. However, this invites commercial activities to proliferate along the corridor route (instead of locating in or around the CBD), thus causing a much higher density of traffic along the corridor (and then the corridor will eventually have to be widened).

Within the "Transportation Investment Policy and Urban Land Use Patterns" (2001), Forkenbrock outlines three models to help illustrate his argument of how a community will develop due to various transportation investments: the monocentric urban model, corridor urban model, and polycentric urban model.

Monocentric Model. This model is perhaps the most active and popular model for small towns shortly after the Industrial Revolution and before the intro of automobiles. A monocentric model consists of a single business district, with all of the development emerging from the district. Commercial activities always agglomerated near ports, canals, or

railroad stations. This gave the district good access to the import/export mode, which allowed the district to be developed. By all the shops being agglomerated in one single district, the consumer could make several purchases in one trip. Everyone benefited. For example, the consumer could go to the butcher, bakery, bookstore, and clothing store, and maybe even have lunch in one of the cafes before heading home. Furthermore, due to its high density and mix usage the district also became a place where information, friendship, culture, knowledge, insight, and skills could be exchanged.[51] While the soon to be known CBD became the heart and soul of the community, residential housing needed to be located as close as possible to the district so the population could access their goods, employment, and social activities. As a result, the community grew organically inside out from the CBD, and all the neighborhoods surrounding the district were well connected to the district and each other.[52]

When a community grows outward from the CBD, land use values decrease. Within the CBD, higher property values exist for a variety of reasons. The most predominant reasoning is the ease of accessibility the population has when entering the CBD, which ensures their presence. While this holds true for the CBD, other areas of the community are not designed with the same accessibility the CBD calls for (and needs). Second, due to agglomeration a low vacancy rate exists. Because of this, businesses outbid other types of businesses to locate in the best place as possible on "Main Street", in order to reach out successfully to the customers. As businesses continue to compete for better-served locations within the agglomeration, property values rises. As the town grows outward, property values become lower since less competition occurs for the farther out parcels of land. This is what's called a bid-rent curve (see Figure 2). As distance increases from the CBD, the number of

land use activities decrease, thus making property values cheaper. As a result, housing becomes more affordable as distance increases from the CBD (see Figure 2.5). However, it must be noted that homeowners might be jubilant in saving money on housing costs, but they are indirectly making a trade-off by spending more money on higher transportation costs. And since they are more reliant and dependent on their automobiles, they have to maintain them to a much higher degree.[53]

Figure 2. Bid-rent curve.

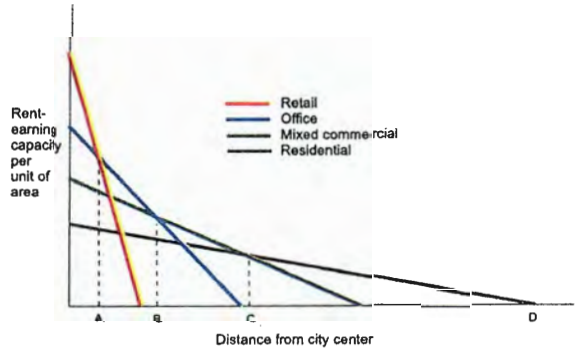
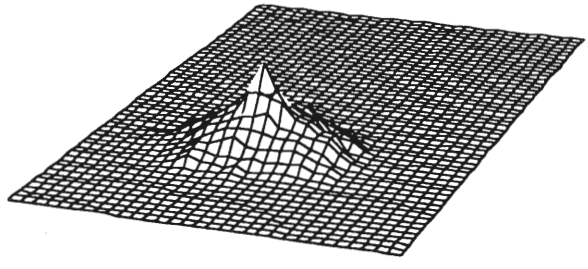


Figure 2.5. Monocentric bid-rent surface surrounding a Central Business District.

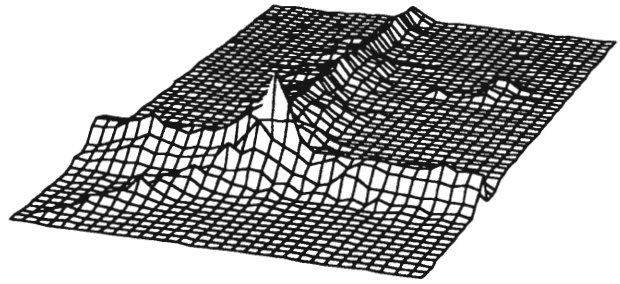


When different types of land uses are added to the monocentric urban model, and are not connected with the CBD or existing land uses, such as an industrial park, shopping mall, or even an Interstate, a new density is created which competes with the monocentric urban model. This creates a ripple effect on the layout of the CBD and its surrounding

interconnected land uses. Rather then respect and complement the CBD and the traditional layout of the town, the new land use directly competes with the CBD. In this process, the new land use drastically alters the existing layout of the community in its favor, in order to maximize its goal. One of the ways in maximizing its goal, for example, is to force the town into adopting transportation policies towards their favor, largely by developing arterial highways out of the small radiating streets to accommodate the influx of automobiles.[54] As a result, a full-blown transportation corridor is developed to connect the inside of the town and the vibrant CBD with the newly created land use form. This activity then ultimately transforms the established monocentric urban model into a corridor urban model (see Figure 3).

Corridor Urban Model. The corridor urban model is most commonly found in communities outside an already established major transportation corridor, such as an Interstate, since land use activities in these destinations are not only cheap, but plentiful (an example would be a shopping mall or an industrial park). When asked why commercial/retail developments take place along the Interstate and not within the town, the reason given is to capture the Interstate (or highway) traffic, not the community's traffic. Another reason why commercial and retail activities develop immediately outside the city limits is to avoid scrutiny and strict ordinances the City Council may impose. Because of the new "land use" now outside of the established small town, the access corridor leading to these new developments increases in automobile activities, and as a result of the increased traffic property values rises. Commercial and retail activities are now inclined to compete with the existing housing stock for the location along the transportation route (see Figure 4).[55]

Figure 3. Corridor Urban Model.



As the corridor urban model continues to grow, land use functions will continue to change throughout the existing layout of the town, and the bid-rent curve will ultimately extend beyond the corridor urban model. For example, a high school might be developed along the fringe of the community, a community swimming pool might be built in one of the neighborhood parks, or an old factory on the fringe of town might be converted into loft apartments (which will lead to gentrification of the surrounding area). Furthermore, commercial activities may be developed near popular intersections; and as a result the typical intersection may transform themselves into larger intersections to accommodate future projections of automobile traffic. Aside from scale, intersections hosting commercial/retail activities share many of the characteristics found in a CBD, with the exception of social interaction (especially true at a drive-thru bank). The commercial activities in a CBD conform to pedestrians. Businesses located near intersections conform to automobiles. At an intersection, each store is accessed from the parking lot off the highway. In a CBD, each store is entered from the front door, leading out to the sidewalk. Furthermore, scale is not a problem within an intersection since the automobile eliminates the whole "concept" of scale. It has even be argued that an intersection today replaces "Main Street" since strip malls are the "Main Streets" today for our auto society (when given an opportunity, Americans would

rather drive). Major intersections provide a high level access to most of the other parts of the community through collector roads cutting through town, thus replacing the role of sidewalks in the neighborhood and CBD.[56] As long as this approach continues to unfold for the automobile, all developments will continue to be designed for the automobile, not pedestrians. When these types of activities starts to appear within the community, a new model emerges, the polycentric urban model (see Figure 4.5).[57]

Polycentric Urban Model. The polycentric urban model is the modern American City, primarily the infamous suburb. Because a suburb actively enforces zoning, the suburb automatically becomes a generic prototype of a polycentric urban model, completely bypassing both the traditional monocentric and corridor urban models.[58]

Since zoning can only be achieved by rationing out land uses into designated districts (thus isolating them in the process), the automobile is inevitably required for the individual to sustain his/her individuality and privacy. Today's cities are no longer obligated to accommodate the pedestrian, and as long as the automobile prevails in priority, scale no longer needs to influence pedestrian oriented design. Over the years, zoning has successfully been implemented throughout the United States, at the cost of destroying vernacular small towns full of pedestrian activities (which achieve the sense of community everyone wants).

Figure 4. Influence of regional cities on bid-rent curves.

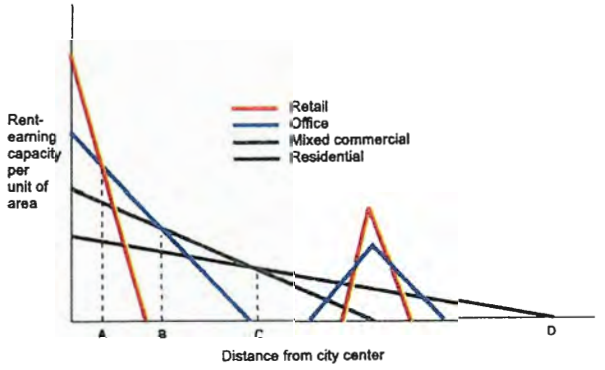
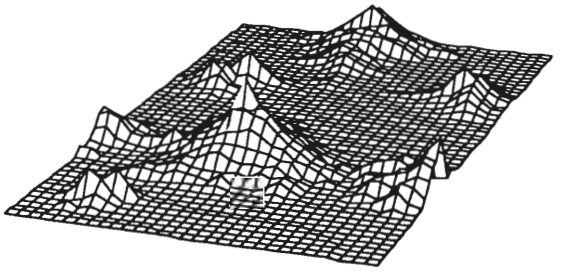


Figure 4.5. Polycentric Urban Model. Bid-rent surface with a CBD and several sizable centers.



By understanding these three models, accessibility and land-rent theory can successfully illustrate the phenomenal influence transportation policies and investment makes in shaping the spatial layouts of land uses, which constitutes the inner-workings of the city.[59]

Since post-WWII, the style in which development has oriented itself towards communities has not changed. More than 50 years later development still operates in this fashion, focusing primarily on three things, the automobile, the individual house, and the connection of surrounding shopping centers. In fact, development has not been concerned with the pedestrian since the introduction of the Model T.[60] Since the introduction of the Model T, development has only been concerned about the car and its efficiency.[61] As a

result, the entire make-up of cities has been dissolved as effortlessly as a lump of sugar in a glass of tea.[62] And as a result of all of this, the car has been able to carelessly insinuate itself into every aspect of American life and standard, to the point where people would have no idea where to begin the day without their car.[63]

Before 1940, growth within any American City followed a planned and orderly fashioned. A map drafted by a commissioned surveyor illustrated where future streets and building lots were to be developed beyond the town's boundaries. By developing along these established guidelines, compact towns were created, a clear distinction existed where city and country met, a mixture of functions were preserved, pedestrian activities were ensued, and the center grew from inside out.[64] After 1945, however, this approach was abandoned and instead a piecemeal growth fashion was instigated.[65] When piecemeal planning is practiced, developers have the freedom to choose the direction of growth, types of streets, and land use for the newly developed (or more appropriately "annexed") section of the town.[66] As a result, individualism and isolationism are perfected shattering the concept of *community*.[67]

It is not surprising then, that "small town" families soon find themselves enjoying the status of an *average* American family, now needing to make an average of ten car trips a day.[68] In a setting where children should be able to walk to school, ride their bikes to the grocery store, and walk to the neighborhood park, a street now replaces these activities to strictly accommodate the car.[69] As a result, parents have unwillingly been assigned the job as an unpaid chauffeur, logging an additional 2,700 miles per year running simple errands (this adds up to spending 90 additional hours behind the wheel).[70] These activities being replaced by the automobile are the very activities Americans are longing for in a *sense of community*. When living in walking distances from typical small town amenities, such as "Main Street",

churches, schools, and playgrounds, an attachment is created by the surrounding neighborhoods through pedestrian activities (face-to-face contact), giving residents pride in their community.[71]

Americans today are seeking rural amenities when buying/building a house in a traditional small town. But when development occurs within a small town, it is a common practice for developers to build in a piecemeal fashion alongside the town's established layout, in which the existing layout of the small town is disregarded and ignored. Because of this, the *sense of community* begins to erode due to the isolated and separated residential units created outside the traditional small town. The only means in which the "pods" are connected is by a collector road leading onto an artery road which ultimately navigates into the town. By confining activities within these "pods," a lack of community-wide participation occurs within the small town, and this is what diminishes the concept of *sense of community.*

An urban couple may seek out a traditional small town to raise their children since rural communities have a reputation of safety, security, and opportunities. Many other families follow pursuing their dreams as well, in owning a home. When developers, realtors, bankers, engineers, and town officials hint positive growth, large areas of tract housing is soon built to house the prospective families. However, as in most cases, before the small town realizes what the disadvantages will be, it will be too late to plan accordingly, the small town will have already become a bedroom community, or even a full-blown suburb.[72]

While it may be true Americans still have considerable affection for traditional small towns, small towns today are now receiving the suburban treatment reflecting the outdated automobile mindset of the 1950s.[73] This represents the period when Americans would only

shop in an individual and isolated free-standing store surrounded by plentiful parking, and accessible only be automobiles. This period also represents when the American Dream was in full swing, everyone was going to live in an individual house with a large lot out in the suburbs. However, this outdated mindset has not only diminished the traditional small town make-up this paper has outlined so far, but it goes one step further by transforming the overall small town into a bedroom community maintaining sprawl characteristics. While the small town may sill hold all the *functions* of a town, the geographic arrangement of land uses consisting of commercial, industrial, residential, and social activities has been drastically altered due to the influx of suburban design principles designed to accommodate the automobile.[74] As stated previously, although Americans do not want this type of arrangement, this is the future being provided to them and their children under the current development practices found in almost every planning jurisdiction in the United States.[75]

It cannot be left out, however, that the most visible change in any traditional small town occurs within the CBD, commonly known as "Main Street". Found in thousands of towns across the United States, "Main Street" represents the embodiment of the town's identity, destination, and focal point.[76]

"Main Street" not only offers the community a center for commercial activities, but social activities as well.[77] Since "Main Street" is a fixed and central node within town, it is an accessible and inviting public thoroughfare from surrounding neighborhoods, consisting of invitational sidewalks and surrounding open spaces. "Main Street" is an exclusive social environment for the town to socialize within.[78] Furthermore, besides playing the role as an economic and socializing arena, "Main Street" also serves the public by hosting parades, rallies, speeches, gatherings, street dances, and festivals.[79] Also, "Main Street" serves

government functions as well, thus strengthening its social and public role. By serving from "Main Street", the police department, post office, fire station, and city hall further defines and strengthens *the sense of place* for the overall "Main Street" community.[80] Last but not least, Americans icons are commonly found on "Main Street", thus strengthening the identity of the community even further by hosting visual landmarks. These are but not limited to: courthouses, water towers, grain elevators, bandstands, and railroad stations. As icons, they give the community an overall unique and independent identity of its own, which cannot be duplicated in other towns.[81] This is what makes "Main Street" "Ubiquitous and characteristically American"[82]

In 1977, the National Trust for Historic Preservation established the "Four Points" that provides a structural framework for small towns in identifying goals for a better "Main Street".[83] The four points taken directly out of the "Main Street's Fifteen-Year Report" are as follows:

1. **Business Improvement**. This element involves diversifying the downtown economy by balancing the retail mix, finding new uses for vacant or underused spaces, and improving merchandising techniques. As a result, the economic structuring will strengthen the district's economic base while finding ways to expand it to meet new opportunities.[84]
2. **Design**. Utilizing appropriate design concepts, the visual quality of downtown; buildings, signs, window displays, landscaping and environment, is enhanced. By enhancing the commercial district's appearance by rehabilitating historic buildings and managing design improvements, unified and quality construction will inevitably take place, strengthening the unique design found within the "Main Street".[85]
3. **Organization**. Each community has many groups of people who are interested in and who would be willing to work toward the goal of a revitalized downtown. The organizational element brings together the public sector, private groups, and individual citizens, with coordination by a paid program manager, to work more effectively in the downtown. This builds consensus and cooperation among the many groups and individuals who have a vested interest in the commercial district, and the overall role in the revitalization process.[86]

4. **Promotion**. By promoting the "Main Street" in a positive manner, a community can focus on the district as a source of community pride, social activity, and potential for economic development. A reputable and well organized "Main Street" will only help in marketing the overall commercial district's assets to customers, residents, potential investors, new businesses, and visitors.[87]

The downtown's inherent assets, rich architecture, small businesses, a connection with the past, and a sense of place all contribute into making the district a successful market place and center of the community.[88]

The "Four Points" are stressed by the National Trust since it is the combination of these elements and the economical, social, and political forces of the community that controls the growth and fate of the "Main Street," whether the buildings are aesthetically pleasing or not.[89] When a community decides to promote their "Main Street" to the National Trust for Historical Preservation Program, the National Trust will require that the city first satisfy the "Four Points." The reason is simple, many "Main Streets" are not organized, primarily among the businesses. For example: many business owners may not want to cooperate with other business owners on uniformed hours of operation, many building owners may not want to spend extra money on façade renovation, the city officials might be known to only pay lip service, and last but not least, the public may not want to even support the overall "Main Street" simply because they don't care.

Once the community does satisfy the "Four Points," the National Trust will then assist the community by providing general resources on preservation matters, it's up to the communities how they make use of the provided resources. For example, the City of Rock Island, Illinois explored the use of tax credits in promoting preservation measures. The city offers buildings located downtown Rock Island the Façade Improvement Program, Old Building Tax Credit, Historic Building Tax Credit, and the Affordable Housing Tax Credit

(and all of these can be combined). If owners choose to fix up their facades, the Façade Improvement Program will provide a 25% rebate of the total costs. The Old Building Tax Credit and the Historic Building Tax Credit both offer tax credits up to 30% when renovating older buildings. The Affordable Housing Tax Credit is offered to help encourage the development of housing within the downtown area. And this tax credit has become very successful since it can be combined with the other tax credits.[90]

To assist communities on preservation matters, the National Main Street National Trust for Historic Preservation distributes a Monthly Periodical entitled "Main Street News" to subscribers to help educate them on the latest and most successful developments. The periodical provides the latest news and development in the planning and architecture world, showcases a successful project or two, and then recommends literature for further reading. Overall, the National Trust recommends that the communities familiarize and educate themselves on the latest and most successful developments as much as possible, primarily by studying the "Main Street" communities showcased in its periodical, and by reviewing literature specializing in "Main Street" and "Neighborhoods" survival strategies.

One of the most ironic features of traditional "Main Streets" found across the United States is its simplicity. When comparing the geometric components of "Main Street" with Mies Van der Rohe's famous quote "Less is more," "Main Street" surprisingly fits the meaning. "Main Street" consists of three things: a street and its layout, the building and other structures along an established streetscape, and the inclusion of open spaces such as parks, squares, and greens.[91] The most important element in regards to the layout of "Main Street" is the road. Usually a simple straight forward axial, where both sides of the streets are lined with commercial buildings constructed to serve the community and travelers.[92]

The buildings lining the sidewalks were designed on a pedestrian scale, since before the advent of automobiles everyone walked around town after riding their horse or taking the train into town. By having the buildings constructed on a pedestrian scale, the arrangement created a "feeling of enclosure and visual interest."[93] After the street and building lots are laid out, everything else falls in place as the growth and economy flourishes. The open spaces and the social environment is created due to the pedestrian activities and government services found along "Main Street", and the architecture takes shape in regards to the economy.[94] This is the beginning stage of "Main Street", and this is also the beginning stage of a community. The street serving "Main Street" reaches out into the residential areas of town, which influences the town growing from inside out. The town growing around "Main Street" always grew in a grid fashion, since this was not only within established custom and practical, but economically feasible as well.[95] As a result, the surrounding neighborhoods were connected to "Main Street" by pedestrian means; and overall, "Main Street" as well as the town was developed compact.[96]

In his book "Main Street Revisited" (1996), it has been noted by Francaviglia that the size of "Main Street" corresponds to the size of the community. If a community has approximately 1,000 residents, the "Main Street" is generally two blocks long. If a community has approximately 2,000 residents, the "Main Street" can extend up to four blocks. And so on. The same holds true for the square. If a community has 4,000 residents, the "Main Street" Square may consist of 6 blocks of commercial activities.[97] Because "Main Street" features the highest density of buildings in town, the property values found within "Main Street" are the highest in town.[98] The intense agglomeration of buildings created a visual climax of two and three story buildings each with its own style representing the era it

was built in.[99] As a result, the façade became the most important feature of the building, since it not only faced "Main Street", but also advertised the business visually.[100] With "Main Street" surrounded by a group of individual but connected buildings, contrasting the various architecture styles and uses, a visual pleasing streetscape is created thus giving the community a sense of place.[101] To see photos of a general "Main Street", see Appendix B.

CHAPTER FIVE – DEFINITION OF WHAT CONSTITUTES A SMALL TOWN, EXURBIA, SUBURBIA, AND EDGE CITIES; AND THE CONTINUUM

When analyzing the growth of small towns, it is important to understand the phases small towns will go through when transformed by growth. This chapter outlines the transformation of small towns, transforming from a small town, to an exurb, then to a suburb, and ending up as an edge city.

Small Town

Historically, an established small town has always been an independent community, with commerce focused on "Main Street" or the Town Square. Throughout time, small towns produced their own identity, which people have indirectly labeled its sense of place. A small town consists of a mixture of uses making all parts of the town harmonious and actively used all hours of the day, especially the CBD. For example, within the CBD shoppers will use the parking spots found in front of the stores during the day, at night people will use these same parking spots while either socializing, going out to eat, or catching a movie. The CBD found in small towns are always built on a human scale, towards the pedestrian. Because of this, a high quality of architecture exists providing the small town with its vernacular, individual, and sometimes even regional "personality."

Due to the gridiron pattern found surrounding most CBDs, traffic is never heavy since "Main Street" is hardly ever used as the primary thoroughfare for the community. Instead, traffic is diffused within and around "Main Street". Even if "Main Street" is a designated highway route, local traffic within the small town will almost always disperse within and around the CBD for parking purposes, or for ease of driving (cars can avoid the CBD entirely

if they want to get to the other side of town). Even if cars do go through the CBD, they are forced to slow down because of the street narrowing due to parked cars, cars parking themselves, the sense of enclosure found in the CBD, the psychological effects of high density, and in some cases, the rumbling of the brick surface beneath the tires of their car.

Due to the rich variety of vernacular architecture found on "Main Street", special pride exists in a small town. Landscaping and housekeeping within a CBD is always taken into account, and routinely taken care of.[102] Trees and flowers are cared for, and clutter never intrudes into a "Main Street" streetscape (wires, traffic signs, tall business signs). Furthermore, a sense of enclosure can be found in most "Main Street" communities, provided by the compatible buildings and uniformed trees lining the sidewalk. This sense of enclosure also helps define the overall public space, which contributes in establishing a sense of identity and pride.[103]

Since street layouts and design found in small town neighborhoods employ narrow gridiron streets, automobiles are forced to slow down and drive more cautious while navigating through. The gridiron street patterns not only prevent automobiles from dominating the road, but also forces the automobile to share the overall neighborhood with pedestrians.[104] Parked cars along the curbs and large trees planted in the immediate boulevards create an environment that is both pleasing and safe, by not only enclosing the street physically by use of a wall of cars and leafy corridors, but by psychology as well.[105] Trees are always encouraged to proliferate throughout neighborhoods within small towns for a variety of reasons. First, they soften the urban environment with green foliage. Second, they cool the air temperature by offering shade. Third, they soothe people spirits with their

natural beauty. And last but not least, they elevate property values by enhancing neighborhood aesthetics, thus increasing neighborhood pride.[106]

When looking beyond the CBD of any small town, most residents live in walking distance to typical town amenities, such as schools, churches, and parks.[107] This is a key element in what constitutes a small town, when housing is integrated with commercial areas enabling residents to reach commercial activities without driving.[108] Other commercial activities can be Laundromats, day-care centers, and recreational facilities, which also further complement a residential neighborhood, making the small town much more self contained.[109] By allowing all of these activities integrate within the neighborhoods, efficiency is maximized since individuals can "accomplish a multitude of tasks with minimal expenditures of resources and energy."[110] This mixture of usage not only offers a more diverse and lively neighborhood, but also provides realistic and interesting landmarks; landmarks helping people orient themselves to an area.[111]

By making use of sidewalks, neighbors are given the opportunity to interact with other neighbors, face-to-face. The sidewalk allows residents to take walks, walk their dog, push a stroller, or pull a wagon. By utilizing front porches, social interaction is invited among residents while sitting on their porches.[112] This provides the residents an attachment not only to their neighborhoods, but also to their neighbors.

In conclusion, the town's overall human scale due to compact neighborhoods stimulates pedestrian activities, enabling face-to-face intimacy.[113] Furthermore, because of the mixture of usage found within the neighborhoods (churches and schools), architecture is more diverse further creating a unique sense of identity for each of the neighborhoods. Because of the variety of mix usage found within neighborhoods, the convience of being able

to walk to typical town amenities, such as schools, churches, shops, and playgrounds, and the social opportunities made allowable by sidewalks and porches – residents feel a much deeper attachment to their neighborhood.[114] This is what creates a definite sense of place about their street, and as a result, strengthens the "sense of community" people are yearning for today.[115]

Exurb

When a metropolitan area taps a small town, parents may begin to choose spending time normally spent at home with time behind the wheel in order to raise their family in a small town setting.[116] As these families increasingly populate within/near the small town, the small town ultimately begins to transform into exurbia. Measuring the types of activities occurring in these towns can identify whether or not the small town is an exurbia. For example, schools will be top notch while infrastructure will remain inadequately poor.[117] Or, John Deere tractors will commonly coexist with Volvo station wagons on the country roads.[118] However, the most important measurement used in identifying whether the small town has become an exurb or not is the type of development taking place, but how much. If the population over time has grown due to new housing and low vacancy rates, and the town economic activity has remained stagnant; the small town is an exurbia. Whether or not a small town becomes exurbia is not an issue until a careless developer looking for a fast development project comes knocking on the front door. As the developer builds large tracts of housing on the outskirts of town (which most likely does not tie into the existing fabric of the small town), pamphlets and realtors will busy themselves advertising to prospective young families. The pamphlet can go so far in illustrating the historic small town bustling with activities, a sweeping view of farmlands in the setting sun, and children playing together

while laughing in a city park.[119] However, the pamphlet never illustrates to the prospective young family that the new development is located a mile outside of town, and is not connected with the town except by means of the highway. This translates to the family the confinement they will soon be enjoying with their automobiles, and the children will be pretty much grounded until they turn 16. (And the parents will have no choice but to either buy them a car, or to let them drive their car so the child can live out their last two years in High School as a "normal" kid). Furthermore, problems soon rise. Such as, "where is the snowplow?" "How will the water and sewer distribution system be financed when the Department of Natural Resources requires the city to provide it to the subdivision due to ground water pollution?" Last, but not least, "who is going to widen this collector road leading into town since it is not only congested, but inadequate?" While a country road might be fine for a farmer, it is not acceptable for a corporate executive in a $40,000 car late for a morning meeting.[120] Alas, the family may find out their property taxes are no longer a bargain.

It must be noted that exurbia can also be a product long after suburbia development has occurred. Within suburbs, families may quest to live further out in a small town or countryside that has not yet been "influenced" by suburbia development. This scenario has been possible due to jobs relocating from the city to corporate parks located within the suburbs. Because of the emergence of these new employment centers along the edges of the suburbs, a "leap frog" system allow families wishing to flee the overcrowded and overpriced suburbs to live further out; since the parents will only have to drive from the suburbs to work, not the city.[121] However, the families may think they are in fact "escaping" through the use of their automobiles, quite the opposite is actually happening. What the families are doing

are breaking ground for future suburbia growth; they are simply credited as being the first wave of growth.

As exurbs are created along the fringes of suburbs and within the countryside, development occurs on an ultra low-density format. Corporate parks are much larger and distanced, and housing subdivisions are more spacious and separated from other activities; activities such as schools, retail, and parks. In short, distance have simply ballooned out of control.[122] This leaves residents being absolutely dependent on their automobiles. When suburbia development does catch up to them (and engulfs the residents), the residents soon find themselves in worst shape then before since they have become landlocked by spacious land use patterns catered specifically to the automobile. The families are at the end of the line, there is just simply nowhere to go.[123]

Because of the far-flung developments occurring rapidly in the countryside, the transportation infrastructure has not been able to keep up with the traffic demand. This actually creates a more dangerous place then being in the inner city. In fact, William Lucy conducted a study in which he published his findings in "Watch Out, It's Dangerous in Exurbia" (2000). Lucy's study illustrated that traffic fatalities occurring in exurbs are actually close to being three times higher than murder rates in the inner city. In other words, you have a much higher chance of dying in a car wreck on a country road than getting shot downtown Cleveland.[124] Most of these fatalities occurring in the exurbs involves families doing routine daily and weekly activities; driving to and from work, school, the grocery store, soccer games, etc.[125] The reason for these accidents is quite simple, as housing developments occur farther out on two-lane country roads, drivers become extremely vulnerable as they and other motorists drive faster and more stressful, especially during

commuting hours.[126] What used to take 10 minutes to get a gallon of milk now takes 30 minutes, soon it will take 45 minutes.[127] It is then not surprising to learn that driving home from work has officially replaced driving home from the "night out with the guys on a Friday night" as the most deadly time to be on the road; three out of four drivers are killed on two-lane county roads in terms of highway fatalities.[128] What's worse is the rate of survival once a driver has been in a car wreck. The rate of survival means the amount of time it takes the ambulance to not only *reach* the victim, but *to get the victim to the nearest hospital*; simply stated, the longer it takes to get the victim to the nearest hospital the worst his/her chance of survival will be. Statistics show if the victim reaches a hospital in less than 20 minutes, they will have an excellent chance of recovery; the average time to reach a hospital in exurbia is 52 minutes.[129]

Suburb

The exurb remains an exurb until commercial development enter town following the large-scale tract housing developments. Commercial developments are large-scale "franchised" developments, such as WalMart, McDonalds, and Jiffy Lube. While commercial and retail centers begin to penetrate the sweeping views of the rolling farmland beyond the horizon, more housing developments are built as "infill." This is when exurbia begins its transformation into suburbia. This is also the turning point where the vernacular character of the small town changes forever.[130] Once these developments are developed, the small town is stuck with them.

Although most small town "Main Street" businesses are pretty much doomed when a WalMart comes into town, it doesn't have to be that way. The fact of the matter is most new

families never attempted to patronize them. New families want to enjoy the small town activities by watching only, they don't want to participate within the activities of the small town.[131] For example, new families think nickel and dime stores, local banks, and the café are distinct and picturesque, but they won't patronize and trade at these places. New families will even go so far to show off these places to visiting friends and relatives. However, patronizing and trade is continuously done by these new families in other towns, until a WalMart, Wells Fargo, or McDonalds opens up in their town. When the local businesses making up the "Main Street" closes, thus providing a dark cloud for the rest of the CBD, the new families are actually dumbfounded on why these stores went out of business. Although growing in population, the small town isn't pretty anymore.[132] In fact, in "America's Undeclared War" (2001), Daniel Lazare writes about the transition into "suburbia" and "the problem of "uglification," the tendency of automobiles to foster an epidemic of parking lots, gas stations, shopping centers, and drive through banks, that spreads itself across the landscape like some gruesome rash."[133]

When the community starts to grow in a rapid fashion to accommodate all of these new developments, local standards are adopted quickly on a "proactive planning" campaign. These local standards are usually off of suburbia standards, without the small town realizing the inappropriateness of these regulations to their rural situations.[134] This is what quickly leads the small town into the "Anywhere, USA" mode.

Suburbia is the complete opposite of what constitutes a small town. The main reason for this is the ideology behind suburbia. Historically, suburbia has concentrated on two goals, and can only successfully achieve these goals by the use of the automobile. First, suburbia is concerned with protecting existing property values and the overall interests of the

property owners. Second, suburbia was designed to maximize the American Dream, the single family home. To achieve these two goals has been the reasoning for the suburbia development ever since the end of WWII. Instead of following the most practical, economical, and established custom of using the gridiron street pattern, zoning was instead developed as a tool to achieve these two goals; and as an indirect result the commuter car suburb was invented.[135]

With the use of the automobile, suburbia is able to satisfy its ideology. Through the use of the automobile, the elements constituting a small town are eliminated by allowing the larger scale required by autos dominate development. As land use expands, distance to destinations increase, and the more traveling increases; walking, biking, and even mass transit becomes impractical.[136] Soon, sidewalks are eliminated to save costs. To engineers, this thoroughly achieves the elimination of pedestrian and bicycle activities since they not only get in the way of the automobile, but an automobile might kill them.[137] However, as more cars take the road, the threat to noise, pollution, and bodily injuries from passing three-thousand-pound automobiles increases.[138] This almost makes "walking" a luxury.[139]

Unlike a small town, everything in a suburb is disconnected: shopping, residential, schools, churches, and offices.[140] These large areas are separated into designated areas, linked together by a highway. And since housing has been deliberately separated from the commercial areas, the only way these areas can be accessed in a reasonable manner is by an automobile, making suburbs extremely incompatible for individuals not having access to an automobile, primarily children, teenagers, and senior citizens.[141] This is probably the main reason why children's bicycle sales have dropped more than 40% between 1987 and 1996.[142]

Furthermore, discrimination is indirectly at the discretion of city council leaders, since they are now able to divide residents of different income brackets accordingly through the use of "density measures" found in any zoning code. Since apartments are classified as a higher density land use, they are separated and isolated from the single family housing units. This creates not only an economic segregation, but a social segregation as well. And this erodes the fundamentals behind the "sense of community."

Neighborhoods within suburbia do not contain the amenities traditional small town neighborhoods are blessed with; amenities such as sidewalks, open space, and mix uses. Instead, suburbia neighborhoods conforms to rigorous ordinances calling for monotonous and homogeneous housing tracts, large roads and cul-de-sacs strictly engineered for worst case scenarios, and an abandonment of trees since they may cause accidents (a car may hit one of these).[143] The most apparent difference, however, is privacy. Each yard is private and individualistic, strengthening the divorcement of the surrounding environment and social possibilities. Overall, the neighborhoods are designed to keep outsiders out through the use of cul-de-sacs and dead ends, then the houses themselves are designed to keep neighbors from entering, by employing large setbacks from the street and surrounded by excessive landscaping.[144] Since alleys and sidewalks are almost always left out of a suburbia development, any spontaneous interaction between neighbors and children are less likely to happen, almost forbidden.[145] With suburbs ultimately being designed to provide privacy one way, and with large lots providing further privacy the other way, the entire social fabric is undermined as a whole.[146] Those who can't drive, the children, are limited to their spacious yards (or fortress). Walking around the block can be quite a challenge, since none of the

roads interlink with each other.[147] Furthermore, there are no destinations to even attempt the challenge; everything is accessible only to automobiles.

Suburb streets within suburbia are designed to facilitate automobiles in an efficient manner, fast. Because of this, suburbia streets are designed with a wide collector road serving as a major artery, like a trunk of a tree. It is not uncommon to notice how wide the streets are within the suburbs; in fact, it is not unusual to find the street wider than the state highways serving them. Suburb streets are also curved to keep vehicles moving fast (or, efficiently) when turning a corner.[148] Due to the spacious environment designed for the automobiles, a sense of enclosure is lost, as well as pedestrian safety. Subdivision roads are meticulously overdesigned, extraordinarily expensive to build and maintain, a disgrace for possibilities of social interaction, problematic for storm water management, and overall, non-rural in character.[149]

Overall, rather than foster a natural environment allowing for social interaction among neighbors, suburbia emphasizes privacy and isolationism, ensuing disconnectedness.[150] For example, if a family went for a walk within their neighborhood, mystification would most likely emanate. Neighbors would not only wonder why the family is attempting such an activity, especially when they have a two-acre backyard, but would wonder why are they in front of ***their*** house?[151] Because of this, social isolationism is developed to the extreme, it is then easy to understand why people love supermarkets so much, they might actually run into someone to socialize with.[152]

Since these suburban pods are not mixed use, and are predominantly served by one or two collector roads, residents have no choice but to use the major arteries serving their neighborhood during all hours of the day. It is the trade-off for the privacy and seclusion. In

order for suburbanites to receive the privacy and best property values, auto transportation needs to be fully implemented, which leads to congestion exacerbating on the one or two major axis highways several times during the day as the residents try to do their daily activities; work, shop, and live.[153]

As long as the zoning ideology continues to allow suburbia to take form, "Anywhere, USA" will continue to be developed across the landscape. The minute a small town adopts a set of zoning codes which enables suburbia principles, without tailoring and amending the codes to fit its future in terms of desired growth, the local identity and small town design will begin to erode immediately.[154] And if the town is not ready, the careless developers looking for a quick buck will be. These developers will be ready to replace the design principles of small towns with suburbia principles, thus transforming the small town into "Anywhere, USA," if the small town lets them.[155]

Edge City

The transformation of small towns does not end with suburbia. Suburbs become official when commercial and retail developments follow the housing developments into an exurb. What a suburb lack are entertainment activities and office space. When office space and entertainment follows the commercial and retail development into a suburb, a suburb is transformed into an edge city.[156] Simply stated, an edge city is when a suburb begins to sprout urban activities, in a low-density fashion without an urban core.[157]

An edge city is any place that was nothing but a small town or cow pasture as recently as 30 years ago. Now it has a large mall, more jobs than bedrooms, five million square feet or more of leasable office space, and is perceived by the population as "one

place." In short, the edge city has an abundance of jobs, shopping malls, and entertainment venues. An edge city is a high tech, high education, and high-income community.[158] An edge city is a product of a suburb evolving from a small town, since freeway access and large amounts of cheap farmland are the essential ingredients needed for the development of edge cities to take place. In short, it is because of the availability of large amounts of cheap farmland accessible by the freeway edge cities are possible.[159]

Whereas entertainment and office space within urban cities and small towns were designed with the pedestrian in mind, the edge city has instead adopted suburbia principles by developing around the car; and as a result, physical growth is occurring outward at a rate exceeding its population growth.[160] Since the edge cities emerging from suburbs are extremely low density in character (sea of parking lots, green lawns, and office parks), policy makers have already began debating their sustainability.[161]

In an edge city, many find they have no choice but to stay within the office park for lunch, because it would simply be a waste of time fighting traffic for a cheeseburger. To go home for lunch is not even an option. However, to make up for the loss of freedom during lunches, corporations have strategically landscaped their campuses into jogging trails, ponds, and picnic areas for employees to stroll about during their lunch hours, thus feeling good about the places they work for (Psychology 101).[162] However, parks or no parks, emphasis becomes much more focused on automobiles since these new edge cities sprouting up are not served at all by mass transit or light rail. Even if mass transit were available, it simply wouldn't be possible due to feasibility. Instead, edge cities are served by the use of freeways, airports, and telecommunications.[163] Edge cities are new, a product of the 21st Century.[164] However, while the developers tout all the jobs that will soon be created, social

welfare is never considered.[165] Edge cities are not pedestrian friendly, no sidewalks are employed, and mass transit isn't an option; instead edge cities emphasize the dependence on the automobile, which eliminates all possible social interaction.[166] Rather than lay out the streets first, and then build the buildings within the network of streets, edge cities are the exact opposite. Buildings are built first, and the streets and parking lots are added afterwards.[167] Furthermore, edge cities lack normal civilization, livability, neighborhoods; all of the elements constituting a town's sense of identity.[168] An edge city is a corporate product, packaged and sold to the consumer, and the public relations department within these corporations sole duty is to convince the American people, once again, that this is the way American people want to live.

In contrasting these four different types of communities, a theme continues to evolves: street design and layout. The continuum will focus on this.

CONTINUUM: STREET DESIGN AND LAYOUT, "MAIN STREET," AND SOCIAL WELFARE.

Small Town Exurbia Suburbia

In researching the three small towns for this thesis, the small towns were analyzed against a continuum. The amplitude of the continuum was measured starting from small towns and ending with suburbia, with exurbia falling in the gray areas in the middle. Edge cities were not included since the phenomenon sprouts off of suburbia, and none of these small towns have peaked in suburbia status. Each community was measured against the established continuum to see where it stands. See Appendix C for examples of various items illustrated from the following continuum. The results will be explored in Chapter 7, when the small towns are analyzed and compared. The continuum is as follows:

1. **Street Design and Layout.** "In shaping cities, the idea of what the commercial and residential street network should be has always been debated, since these streets are the public frameworks within which neighborhood life takes place."[169]

Small Town

1. Streets are the public framework enabling neighborhood life to take place; furthermore, streets are used as a social setting: as a visual setting, an entryway for a home, containing a pedestrian circulation system, providing a social place for meeting people, and providing a play area for children (and adults).[170]
2. Streets are able to provide the links for a healthy and livable environment, by possessing the connectedness, structure, walkability, and accessible mix land use patterns.[171]
3. By making use of small front yards, an effective transition is created allowing social interaction. The yard is private but also public, which enables a social environment to stimulate.[172]
4. Alleys are used quite commonly, providing another area for children to hang out, and social opportunities between neighbors.
5. Streets and sidewalks lead to destinations. Such destinations can be neighborhood parks, schools, churches, and even the CBD.
6. Gridiron streets are developed to cater both to automobiles and pedestrians. By employing the gridiron pattern, pedestrians can walk and bike safely next to traffic. Since the gridiron street allows pedestrian activities, parts of towns are more accessible to people who might not have a car, predominantly the working poor, children, and senior citizens.
7. Streets within neighborhoods allow street parking. By allowing street parking, a protective barrier gives pedestrian the psychological feeling of enclosure (safety). Furthermore, parked cars makes cars driving down the street slow down, in case a parked car is exiting or parking.
8. Traffic is allowed to disperse among the gridiron network of streets. Because of this, accessibility is increased and congestion is not an issue.
9. Gridiron streets enables finding an address much easier. Furthermore, because the layout of town is simple, finding your way around town is much easier.
10. Neighborhood boulevards are complex accommodations for traffic, parking, trees, and sidewalks, creating habitable public spaces that weave the buildings into an urban fabric.
11. Having good access to schools, recreation, commercial, and jobs due to mix land uses leads to a more vibrant and healthy neighborhood.[173]

Exurb

1. There are few cars on the road, few (if any) traffic signals, and hardly any traffic jams. Immediately beyond the town's corporate limits farmsteads stretches across the horizon.[174]
2. Houses are constructed so fast – roads, schools, and infrastructure can not be built fast enough to accommodate and sustain the population growth (taxes can't be raised fast enough).[175]
3. Due to the inadequate transportation infrastructure used by the surging population growth, 77% of traffic fatalities have been nationally occurring on two-lane roads within exurbia.[176]
4. Due to the rural roads not originally engineered to handle today's traffic capacity, rescue teams cannot reach an accident quickly enough to save lives.[177]

Suburbia

1. Streets are engineered specifically for the performance of cars.[178]
2. Cul-de-sacs. A cul-de-sac is perhaps the most "successful" product of suburbia. Cul-de-sacs represent the privatizing of the private. As a turn around, the "dead end" street successfully separates itself socially as well as physically from the rest of the suburb – making the entire cul-de-sac an isolated, insular, private enclave.[179].
3. Street design and layout are designed for local traffic, keeping outsiders out.[180]
4. Suburbia depends on the one or two collector and arterial roads for its survival. Because of the limitation of entrances and exits, the suburb successfully becomes "private" and for "members only," keeping outsiders out. However, since there are only one or two thoroughfares, congestion and safety is a direct threat to pedestrian activities – sometimes even eliminating pedestrian activities altogether. Furthermore, congestion and safety is a direct threat to other motorists, since stress increases with congestion.[181]
5. Due to the warped and curvilinear network of roads within suburbia, walks can be long and boring. Aside from no destinations, there are no interesting places to walk by in a suburb. Furthermore, a suburb is considered lucky if it even has sidewalks (however, this does not solve the problem of no destinations).[182] The streets replacing the gridiron streets are boring in its repetitiveness. The streets offer little apparent structure, no unifying element, or a clear describable pattern.
6. Planners are the essential architects of street layouts and road building since planners are knowledgeable about the environment street layouts will ultimately produce – not bankers, lenders, attorneys, engineers, fire chiefs, etc.[183]
7. By eliminating the curb, a continuous surface is created enhancing the sense of continuous space. This encourages traffic to speed up since the sense of enclosure is gone.

8. Street layouts are warped and curvilinear to privatize the neighborhood; however, this causes disorientation and makes it difficult to find an address.[184] If the directions are not accurately and specifically written, a cell phone will be handy.
9. Human activities are separated into "zones." These zones are then divided up accordingly and assigned a function, such as "residential subdivision," "commercial spaces," and "office parks." Large thoroughfares including arterial, collectors, and highways only connect these zones. You must have a car in order to sustain a livelihood among these "zones."[185]
10. By practicing the use of designating "zones," environmental, social, and economical deficiencies are created – thus choking off sustainability for the community as a whole.[186]
11. Residential streets are paved extremely wide for worst case scenarios; it is not uncommon to find a collector road wider than the state highway serving the subdivision.[187] Even if an emergency situation did occur, the fire trucks and emergency vehicles would have to drive up the front lawn to the house since the front lawn is enormous. Furthermore, since the subdivision feeds off of the one collector road, the rest of the neighborhood beyond the burning house is choked off.
12. The residential streets encourage speeding due to its width of paved surface, and the curves engineered for cars not to slow down.
13. Suburbia streets are products of engineers, financial institutions, government regulators, the road building industry, as well as fire and police. They all have a vested interest to see the street design and layouts continue in a suburbia fashion, even if the rigid framework results in uniformed, unresponsive environments ignoring local situations, and dictates a dispersed, disconnected community pattern providing auto access at the expense of other modes.[188]

Table 1. Street Design and Layout Continuum.

	Small Town	Exurbia	Suburbia	
1)	"Main Street" is a socially inviting place, full of mix usage. By allowing mix usage, especially activities for people of all ages and incomes, the CBD becomes a 24-hour district.	In a small town where exurbia may emerge, there may be no home delivery of mail (people congregate at the US Post Office - thus creating a social environment)	A CBD hardly exists in a suburb. If one does exist, it only caters around the automobile.	Continuum* - "Main Street"
2)	"Main Street" is compact, making it easily accessible by the entire community.	Amenities such as movie theaters and hospitals may not exist.	Shopping activities are physically isolated from housing, forcing all people to drive.	
3)	"Main Street" is designed for the pedestrian, as well as the automobile.	Local shops may be threatened by exurbia influences (WalMart, McDonalds, Wells Fargo, etc.)	Congestion is continuously a problem, since the entire town has to drive and park.	
4)	Neighborhoods are integrated with "Main Street", making them accessible, as well as single businesses being integrated within the community, such as Laundromats, day-care centers, and corner grocery stores.	When a new school is built due to the population surge, the new school is most likely built outside the city's limit, accessible only to automobiles.	"Corporate Parks" holds the function of providing employment and in producing midday commutes for lunches and running errands (since the parks themselves are segregated from the "retail" and "commercial" zones.	
5)	Due to the compactness and accessibility, shopping and employment are close, and can be reached by other modes of transportation, such as walking or biking.		The CBD area of the suburb will consist of incompatible and separate land uses, creating a host of problems in terms of accessibility, connectedness, scale, and socially inviting places for all people.	
6)	Honorific locations are reserved for churches or civic uses throughout "Main Street" and the community, such as beside a park or at the termination of street vistas. Brownfield sites and abandoned sites are encouraged to be redeveloped through smart growth plans and other incentives.		Civic buildings, such as education, religion, meeting, and culture are not built in honorific locations, instead they are built spontaneously on wherever the land is available at the time - with the ultimate goal of satisfying parking issues.	

***This table is a summary of the Continuum Outline. Not all of the items found in the Continuum Outline are listed in this table. The citations for the listed itesm in this table are found in the written text of the Continuum Outline.**

2. **"Main Street."** In the United States, there are several thousand small towns, and, by definition, as many Main Streets. As the focal point of any small town, Main Street serves many purposes. Perhaps the most important of which is retailing, followed by socializing. Besides commercial activities taking place on Main Street, Main Street also serves as an "official" hub for social activities; it is here where the parades, festivals, speeches, and gatherings takes place. The social function of many Main Streets is further strengthened, as it is also the location of government and its services. Last but not least, Main Street contains many of the visual landmarks giving the city its distinct identity, such as Courthouses, Statues, Grain Elevators, Railroad Stations, etc...[189]

Small Town

1. The CBD, located along a "Main Street," or "Town Square" are socially inviting places, full of mix usage. By allowing mix usage, especially activities for people of all ages and incomes, the CBD becomes a 24-hour district.
2. "Main Street" is compact, making it easily accessible by the entire community.
3. "Main Street" is designed for the pedestrian, as well as the automobile. The network of sidewalks is always included with transportation plans. Since pedestrians, compactness, accessibility, and connectedness are all taken into consideration, "Main Street" is pedestrian friendly and safe.
4. Neighborhoods are integrated with "Main Street," making them accessible, as well as single businesses being integrated within the community, such as Laundromats, day-care centers, and corner grocery stores. This mix usage further provides activities socially and environmentally all day long.[190]
5. Due to the compactness and accessibility, shopping and employment are close, and can be reached by other modes of transportation, such as walking or biking.
6. Honorific locations are reserved for churches or civic uses throughout "Main Street" and the community, (honorific locations) such as beside a park or at the termination of street vistas. Such sites support the relative importance of buildings, and further establish landmarks within the "Main Street," and interesting places within neighborhoods.[191]
7. Due to the efficiency of transportation modes and accessibility of "Main Street," traffic congestion hardly exists within the CBD.
8. Brownfield sites and abandoned sites are encouraged to be redeveloped through smart growth plans and other incentives. Furthermore, smart growth encourages preservation of buildings and open spaces surrounding the small town.
9. Civic buildings existing within "Main Street," strengthens the role and mix usage within the CBD.
10. Past investments are built off of. An example would be rehabilitating the gazebo in the City Park off of "Main Street."

Exurb

1. In a prospective small town where exurbia may emerge, there may be no home delivery of mail (people congregate at the US Post Office, which helps in creating the "social environment" people are yearning for).[192]
2. In a small town where exurbia may emerge, amenities such as movie theaters and hospitals may be non-existent.[193] On the other hand, in a small town where there is a full scale Central Business District, exurbia may threaten the local economy by inviting corporate chains to develop (McDonalds, Wells Fargo, Pizza Hut, Home Depot, WalMart, etc).
3. When a new school is built, the school is most likely built outside of the city's limit, accessible only by automobiles.

Suburbia

1. A CBD hardly exists in a suburb. If one does exist, the CBD caters only to automobile.
2. The CBD area of the suburb will consist of incompatible and separate land uses, creating a host of problems in terms of accessibility, connectedness, scale, and socially inviting places for people of all ages and incomes.
3. Civic buildings within a suburb are built spontaneously on wherever the land is available (capitalist approach); buildings that are used for education, religion, meeting, and culture are not built in honorific or key locations, but are instead rewarded with a large parking lot.[194]
4. Shopping activities are physically isolated from housing, forcing all people to drive.
5. Congestion is continuously a problem since everyone has to drive and park. Mammoth parking lots surrounds each store, and can only be accessible through a fairly large thoroughfare. Scale is lost as areas increase in density to accommodate more cars.
6. Corporate Parks, although not a CBD, holds the function of providing employment and in producing midday commutes for lunches and running errands (since the parks themselves are segregated from shops and restaurants). These large tracts of land create depopulated zones at night and weekends when businesses are closed.[195]
7. There is a complete loss of third places, places where children and teenagers can socialize freely, such as coffeehouses, pizza parlors, skating rinks, parks, libraries, playgrounds, etc.[196] Instead, third places have to be instigated by scheduling around parent's schedules (vehicle transportation is needed).
8. The separated land uses, low density, loss of public transit and pedestrian networks within suburbia all have a profound impact on the socialization of young people.[197]
9. Land is developed faster than the population growth, which creates sprawl development patterns. The cycle of problems only continues.

Table 2. "Main Street" Continuum.

	Small Town	Exurbia	Suburbia	Continuum* - Street Layout
1)	Streets are the public framework enabling neighborhood life to take place; furthermore, streets are used as a social setting: as a visual setting, an entryway for a home, containing a pedestrian circulation system, providing a social place for meeting people, and providing a play area for children.	There are few cars on the road, few (if any) traffic signals, and hardly any traffic jams. Immediately beyond the town's corporate limits, farmsteads stretches across the horizon.	Cul-de-sacs. A cul-de-sac is perhaps the most "successful" product of suburbia. Cul-de-sacs represent the privatizing of the private. As a turn around, the "dead end" street successfully separates itself socially as well as physically from the rest of the suburb - making the cul-de-sac an isolated, insular, private enclave.	
2)	By making use of small front yards, an effective transition is created allowing social interaction. The yard is private but also public, which enables a social environment to stimulate.	Houses are constructed so fast; roads, schools, and infrastructure can not be built fast enough to sustain the growth (taxes can't be raised fast enough).	Street layouts are warped and curvilinear to privatize the neighborhood; however, this causes disorientation and makes it difficult to find an address.	
3)	Alleys are used quite often, providing another area for children to hang out, and social opportunities between neighbors.	Due to the rural roads not originally engineered to handle today's traffic capacity, rescue teams can not reach an accident quickly.	Suburbia depends on the one or two collector road for its survival. Because of the limitation of entrances and exits, the suburb sucessfully becomes "private."	
4)	Streets and sidewalks lead to destinations, such destinations can be neighborhood parks, schools, churches, and even the CBD.		Due to the warped and curvilinear network of roads within suburbia, walks can be long and boring. Aside from no destinations, there are no interesting places.	
5)	Gridiron streets are employed to cater both to the automobiles and pedestrians.		Streets are engineered specifically for the performance of cars.	
6)	Streets within neighborhoods allow street parking. A protective barrier gives pedestrians the psychological feeling of enclosure. Furthermore, parked cars makes cars driving down the street slow down, in case a parked car is exiting or parking.		Human activities are separated into "zones." These zones are then divided up accordingly and assigned a function, such as "residential." Because of the large amount of traffic used to reach the spacious zones, you must have a car.	
7)	Traffic is allowed to disperse among the gridiron network of streets. Because of this, accessibility is increased, and congestion is not an issue.		Suburbia street standards are designed for worst case scenarios. As a result, it is not uncommon to find a residential street scaled wider than a highway.	
8)	Gridiron streets enables finding an address much easier. Furthermore, finding your way around town is much easier.		Suburbia streets are products of engineers, financial institutions, government regulators, the road building industry, as well as the fire and police. They all have a vested interest.	

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3. **Social Welfare.** Under different physical environments, social opportunities among people and different organizations will be affected, and eventually reflected in terms of for better or worse.

Small Town

1. Small towns are developed on a human scale centered on people, as well as automobiles, thus allowing social interaction to occur freely.
2. Third places exist throughout small towns, through the use of integrating businesses and other land uses within the neighborhoods and CBD; third places such as a youth center, pizza parlor, skating rinks, parks, coffeehouses, playgrounds, taverns, libraries, etc. This gives kids, teenagers, adults, and even senior citizens more opportunities than hanging out at a regional shopping mall with nothing to do.[198]
3. Mix usage allow social interaction to occur freely, such as at Laundromats, churches, and neighborhood coffee shops.
4. Parks, churches, and schools within the neighborhoods are occupied all hours of the day with daily activities for people of all ages and incomes.
5. Integrated land usage, connectedness, accessibility, and pedestrian networks give children, teenagers, adults, and senior citizens a variety of alternative activities.
6. Open spaces are deliberately planned to be accessible and maximized by the entire community.[199] A good example is the neighborhood school's playing fields. When school is not in session, soccer and baseball games can occur on the evenings and weekends, and parking won't even be an issue since most of the children and adults can walk to the school.

Exurb

1. It is not uncommon for gated subdivisions (or even housing developments) to illegally practice "racial profiling" in exurbia. People move out here with their personal safety being the largest reason.[200] Furthermore, families uncomfortable with racial integration within suburbia may "escape" to exurbia to search for homogeneous developments.[201]
2. Many families may arrive not wanting anything to do with the small town social atmosphere; they may live out on an acreage or within their housing development and just have a PO Box in town.
3. If growth continues, the exurb becomes a suburb. The first wave of growth gets very emotional about the "new" families "invading" their backyard. The families that originally discovered the exurb would like the "backdoor" shut immediately once they are settled – so they may remain "hidden."[202] Tension then ensues when a new housing development is built next door, and traffic jams appear as a direct result, affecting all of the previously settled families. All of the sudden,

people don't want the "rural rustic lifestyle," nor can they afford it (especially when they are stuck on a gravel road late for a meeting).[203]

4. The families moving into an exurb are not families with rural backgrounds. Problems ensue over the low relaxed level of service. The newcomers may expect the same level of service the city offers, such as snow removal, cable and internet service, municipal water and sewer, etc. Furthermore, since the median income of the area has risen due to the inundation of middle class families, State aid is hard to come by.[204]
5. Crime begins to rise. Since adolescent teenagers find themselves bored, vandalism, theft, and drug usage begins to occur. Their parents are not around to supervise them (or drive them to "hang out" places), and the local police do not have the resources or capabilities to address the drug activities.[205]

Suburbia

1. By being dependent and reliant on automobiles, social interaction is limited during driving.
2. Social interaction can not spontaneously take place within single land uses, unless deliberate.
3. Open spaces are occupied sporadically, usually during specifically organized activities such as soccer or baseball games.[206] Since soccer or baseball games are held at the open fields outside of town, they can only be accessed through the use of an automobile. The fields are then dead zones during the rest of the day, and even during the week.
4. Open spaces are ornamentally done with leftover or useless land. These open spaces are usually found along private properties, where the open space is neither usable nor visible by the rest of the community.[207]
5. Suburbia is synonymous with conformity, repression, and racism. Economical and social segregation are spelled out.[208]
6. In a suburb, children are secluded from other children because of the street layout and design. Parents have to address this problem directly by spending evenings and weekends hauling the kids around in the family minivan. As Christopher Caldwell writes in "Levittown to Littleton" (1999), "this is a breakdown in any socialization of children that could be called normal. A child in the suburbs is far more dependent then a child in a small town, until the child reaches driving age. If the parents don't provide the child with the opportunity of getting a driver's license, the child is then grounded until 18 (when thy leave the house for college or some other activity, adapting slower than their integrated peers)."[209] Caldwell then continues by stating "Suburbs are soul-destroyer towns full of large lots, dead end streets, and draconian zoning law meaning there are vast distances to travel to reach any kind of open space. For parents, this means dependence on cars. For children unlucky enough to inhabit a dead end that has no children on it, this means: no friends for you. Until adolescence, not even a child who is an

ambitious walker can escape, since other neighborhoods are separated from him not by streets, but by highways."[210]

7. A teen in a suburb is four times more likely to be killed in an auto accident, than an urban teen killed by a gun.[211]

Table 3. Social Welfare Continuum.

	Small Town	Exurbia	Suburbia	
1)	Small towns are developed on a human scale centered on people, as well as automobiles, thus allowing social interaction to occur freely.	Many families may arrive not wanting anything to do with the small town atmosphere.	By being dependent and reliant on automobiles, social interaction is limited during driving.	Continuum* - Social Welfare
2)	Third Places exist throughout small towns, through the use of integrating businesses and other land uses within the neighborhoods and CBD; third places such as a youth center, pizza parlor, skating rinks, parks, coffeehouses, playgrounds, taverns, libraries, etc. This gives kids, teenagers, adults, and senior citizens more opportunities than hanging out at a regional shopping mall.	If growth in continues, the exurb becomes a suburb. The first wave of growth gets very emotional about the "new" families following them, thus "invading" their backyard. They would like the "backdoor" shut immediately once they are settled. Tension may ensue as growth continues, and then the roads become congested, schools become crowded, and taxes begin to rise.	Open spaces are occupied sporadically, usually during specifically organized activities such as soccer games. Since soccer games are held at the open fields outside of town, they can only be accessed through the use of an automobile. The fields are then dead zones during the rest of the day, and even during the week.	
3)	Mix usage allow social interaction to occur freely, such as Laundromats, day-care centers, churches, and neighborhood coffee shops. These places are occupied all hours of the day with daily activities for people of all ages and incomes.	The families moving into the exurb are not families with rural backgrounds. The newcomers may expect the same level of service the city offers, such as snow removal, cable and internet services, municipal water and sewer, etc.	Open spaces are ornamentally done with leftover or useless land. These open spaces are usually found along private properties, where the open space is neither usable or visible by the rest of the community.	
4)	Open spaces are deliberately planned to be accessible and utilized by the entire community (such as a playground next to the public school).	Crime begins to rise as teenagers become increasingly bored.	Social interaction can not spontaneously take place within single land uses, unless deliberate.	
5)	Integrated land usage, connectedness, accessibility, and pedestrian networks give children, teenagers, adults, and senior citizens a variety of alternative activities.	It is not uncommon to find housing developments and gated communities illegally practicing "racial profiling."	Suburbia is synonymous with conformity, repression, and racism. Economical and social segregation are spelled out.	

***This table is a summary of the Continuum Outline. Not all of the items found in the Continuum Outline are listed in this table. The citations for the listed itesm in this table are found in the written text of the Continuum Outline.**

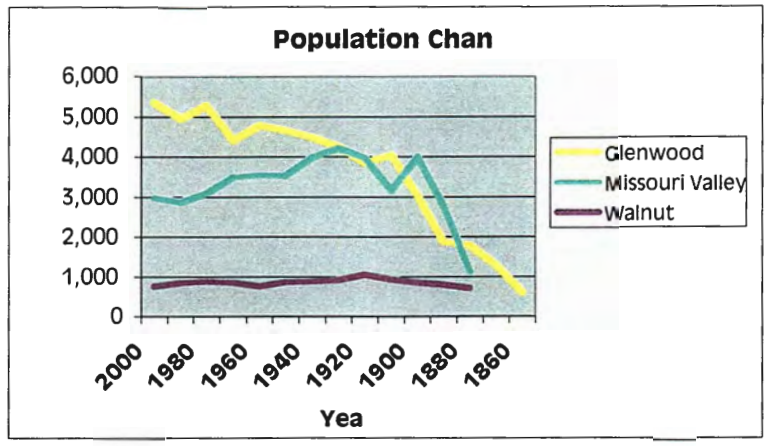
CHAPTER SIX - THE CASE STUDIES

The Three Communities - Location

As stated in Chapter 2, the three communities studied for this thesis; Glenwood, Missouri Valley, and Walnut, were chosen due to its proximity to the metropolitan area of Omaha/Council Bluffs. Glenwood, located directly off of US Hwy 34 in Mills County, is approximately 20 miles (32 minutes) from the Omaha/Council Bluffs Metropolitan area. Although Glenwood is located off of US Hwy 34 and not an Interstate, Interstate 29 is only 3 miles west on US Hwy 34. Furthermore, US Hwy 275 traverses Glenwood from the north, which junctions into I-29/State Hwy 92 near Council Bluffs. Missouri Valley, located directly off of I-29 in Harrison County, is approximately 23 miles (29 minutes) from the Omaha/Council Bluffs Metropolitan area. Last, but not least, Walnut. Walnut is located in the eastern end of Pottawattamie County, directly off of Interstate 80. As the farthest city, Walnut is approximately 45 miles (54 minutes) from the Omaha/Council Bluffs Metropolitan area.

The Three Communities – Population

Figure 5. Growth in the Three Case Studies: Glenwood, Missouri Valley, and Walnut. **Source: State Library of Iowa.**



In Figure 5, the population has been illustrated for all three communities. The population listings for Missouri Valley and Walnut extend back to 1880, while Glenwood's population listing extends back to 1860.

In studying Missouri Valley's population, the impact of the new railroad can easily be measured by analyzing the period between 1880 to 1900, when the City of Missouri Valley experienced a sharp increase in population. In 1880 the population was listed at 1,154, and in 1900 the population skyrocketed to 4,010, a 247% increase in population. However, between 1900 and 2000, Missouri Valley's population decreased by 25%, in 2000 Missouri Valley's population was listed at 2,992.

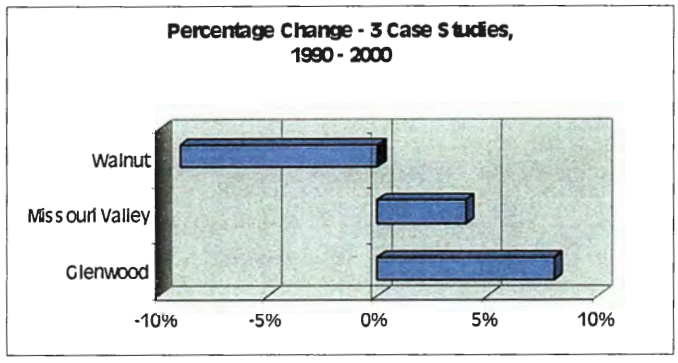
Glenwood's population extends back to 1860, where the population was listed at 614. In 1910, the population of Glenwood climbed to 4,052, an increase of 560%. Between 1910 and 2000, Glenwood's population increased another 32%, where in 2000 the population was listed at 5,358.

Walnut's population have remained remarkably stable between 1880 and 2000. In 1880, the population was listed at 733, in 2000 the population was listed at 778, an increase of 6%. However, in 1920 the population of Walnut peaked at a 1,072, producing a "hump" for the period between 1880 and 2000; between 1930 and 2000 the population decreased by 17%. In summary:

Table 4. Population for the three communities in 1900, 1930, and 2000.

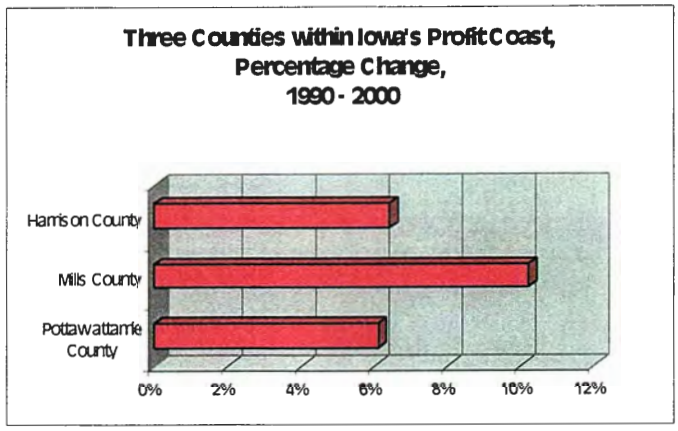
Population of each Community	1900	1930	2000
Glenwood	3,040	4,269	5,358
Missouri Valley	4,010	4,230	2,992
Walnut	878	935	778

Figure 6. Percentage Change in Population: Walnut, Missouri Valley, and Glenwood. Source: US Census.



The City of Missouri Valley and the City of Glenwood both experienced population growth between 1990-2000; however, the City of Walnut did not. During this period, the City of Walnut's population declined by 9 percent. The City of Glenwood's population experienced an 8% increase, while the City of Missouri Valley's population experienced a 3.6% increase.

Figure 7. Percentage Change in Population: Harrison County, Mills County, and Pottawattamie County. Source: US Census.



Between 1990-2000, Harrison County, Mills County, and Pottawattamie County all experienced population growth. While Harrison and Pottawattamie Counties both grew approximately 6%, Mills County alone grew by 10.2%.

Figure 8. Iowa Urban/Rural Population, 1970-1990, projected to 2020.
Source: Iowa Department of Transportation.

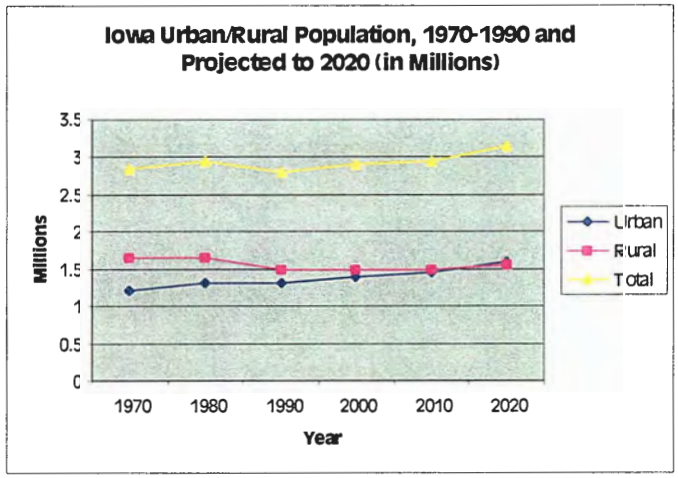
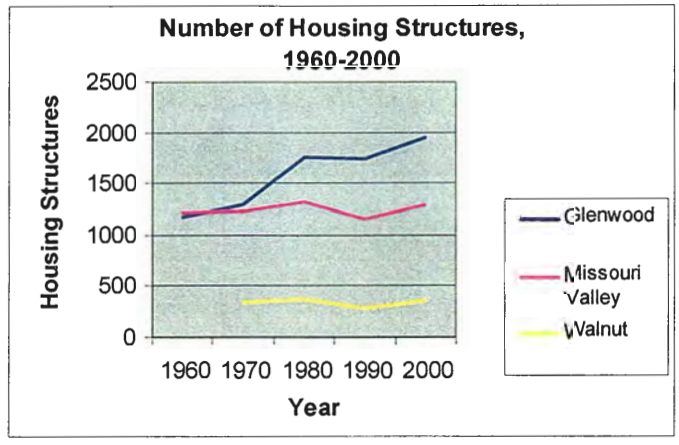


Figure 8 illustrates Iowa's population shifting from predominantly rural to urban in character and density. Projections show the shift will occur between 2010 and 2020. In developing this projection, eleven counties in Iowa were identified as being "urban" (Black

Hawk, Dallas, Dubuque, Johnson, Linn, Polk, Pottawattamie, Scott, Story, Warren, and Woodbury). As Pottawattamie County continues to increase in population, the immediate counties surrounding Pottawattamie County will no doubt absorb its population growth.

Figure 9. Number of Housing Structures in Glenwood, Missouri Valley, and Walnut, 1960-2000. Source: US Census.



The number of housing structures was also analyzed in each of the three cities. In the City of Glenwood, there were a total of 1,176 housing structures in 1960. Between 1970-1980 and 1990-2000 a dramatic increase in housing construction took place; producing an overall 65% increase in housing within the city. In 1960, the City of Missouri Valley had a total of 1,224 housing structures within the city, 48 more structures than the City of Glenwood at the time. However, housing in Missouri Valley increased very little until 1980, and then between 1980-90 the city lost 167 housing structures. Although Missouri Valley regained 146 housing structures between 1990-2000, the overall increase in housing for Missouri Valley between 1960 and 2000 rests at a low 6%. Information on housing for Walnut in 1960 could not be obtained from the US Census, so the analysis for Walnut was made between 1970 and 2000. Just like Walnut's population, the City of Walnut's housing

stock pretty much remained stagnant during this period also; however, unlike the population, housing did increase by 1%. (See Appendix D for more Census Data).

The Three Communities. Street Layout, Past and Present Functions.

The City of Glenwood, the City of Missouri Valley, and the City of Walnut each utilize a different transportation layout, in terms of economics and traffic flow.

The City of Glenwood's Central Business District centers on a Town Square, which is located in the center of the traditional town. The Town Square is primarily accessed through the south side by Sharp Street, also known as US Hwy 34 Business Route. One block west of the Town Square, Sharp Street connects with US Hwy 275, the major thoroughfare for the City of Glenwood. Approximately one mile south of the Town Square, US Hwy 275 junctions into the four-lane US Hwy 34. The city of Glenwood is the county seat of Mills County, thus the Town Square is plays the role as a Courthouse Square, with the county sheriff's office located across the street from the courthouse. All four sides of the square are lined with commercial, retail, and office space. Immediately surrounding the Town Square (as well as within), Glenwood's neighborhood utilizes the gridiron street layout. The complete gridiron street layout extends north to 4th street. From 4th Street onwards (towards the north of town) Glenwood's street design and layout starts to pattern off of a contemporary suburban template pattern. East of US Hwy 275, Glenwood's elementary school serves as a physical transition point for the northern neighborhoods (the neighborhoods north of the school) tying in with the original gridiron layout of the town (all the streets south of 4th Street).

Geographically, the City of Glenwood is situated within the Loess Hills. However, since the City of Glenwood is developed within the Loess Hills, rather than below or outside, growth has been able to occur more freely than one would imagine. Since the 1970s, large tracts of land north of Glenwood have been carved out for future growth instilling suburban development principles. And because of the proximity of the Omaha/Council Bluffs metropolitan area, residential growth in Glenwood has made Glenwood one of the fastest growing residential areas in southwest Iowa.

The City of Missouri Valley's "Main Street" is the heart of the city; however, "Main Street" also happens to be US Hwy 30, a designated Commercial and Industrial Network Highway for the State of Iowa. For the year 2000, up to 9,600 vehicles traveled through Missouri Valley's "Main Street" on an average day.[212] US Hwy 30 connects to Interstate 29 immediately west of the city. Because of the designation and location of US Hwy 30, approximately 7,000 to 11,000 vehicles can pass through Missouri Valley on any given day.[213] Unfortunately, Missouri Valley's Central Business District has had no choice but to orient its development along US Hwy 30, welcoming the automobile more than the pedestrian. Missouri Valley's residential neighborhoods are predominantly sandwiched between US Hwy 30 and the Loess Hills. The steep Loess Hills forms a natural northern corporate limit of Missouri Valley, and due to the steep and rough terrain, urban growth have not been able to continue up into the hills. Nevertheless, the neighborhoods along the Loess Hills are gridiron.

Another obstacle constraining Missouri Valley's growth is its floodplains. Missouri Valley sits not only in one floodplain, but three floodplains and a major watershed (drainage from the Loess Hills). To the south of the city the Boyer River flows towards the Missouri

River, in a southwestern direction. To the West of the city, the Willow Creek and Allen Creek flow south in a parallel direction until they meet the Boyer River. The city actively enforces its floodplain ordinances and regulations, and because the floodplains are located immediately south and west of the city, residential and commercial growth has not been able to mature in these areas. And because of the terrain of the Loess Hills, urban growth has been constrained within the northern and eastern parts of Missouri Valley. The major problem facing Missouri Valley is not suburban style growth in terms of street design and layout, but sprawl.

Missouri Valley developed around the railroad by serving as a major service hub for the Chicago & Northwestern, Sioux City, and Valley railroads. The main rail yards, service yards, and locomotive shops for the rail line were all headquartered in Missouri Valley. At its peak, the population of Missouri Valley was 4,230 in 1930.[214] However, as history has demonstrated, once the highways were developed the importance of the railroads declined. Today, only one railroad operates within Missouri Valley – the Union Pacific. And as a result, Missouri Valley's role as the railroad service sector eventually phased out. Today, Missouri Valley is concentrating on becoming not only a bedroom community for sustainability purposes, but to also develop a commercial and retail center near the Interstate to capture back its loss of retail trade to Council Bluffs and Omaha (to predominantly serve as a regional commercial node within the counties surrounding Harrison: Shelby, Monona, and Crawford).

The City of Walnut is completely gridiron in street layout and design, and the residential neighborhoods have developed exclusively around its "Main Street", except on the south side. The railroad serving Walnut traversed along the south side of town, and

Walnut's "Main Street" formed a T intersection off of the railroad tracks, everything south of the railroad tracks stayed in farmer's hands. Walnut has no major industry; instead Walnut was an "agricultural" railroad town for surrounding farmers to do trade. Up to the 1970s, Walnut's CBD had a barber shop, beauty salon, five and dime store, hardware store, and a grocery store. Every Saturday night farm families would come into town for a night out. However, when the railroad ceased in the seventies, and agriculture suffered through the eighties, residential and population growth within Walnut came to a standstill, and as a result, "Main Street" completely died. During the 1980s, Walnut redeveloped itself into the Antique Capital of Iowa by using Interstate 80 as a marketing tool. It has worked. Today, almost the entire "Main Street" is lined with antique stores, giving the City of Walnut a busy "Main Street" once again, with a "historic" charm.

Since development and growth within Walnut came to a stand still, construction hardly took place within Walnut during the seventies, eighties, and even as early as the nineties. Because of this, when standing in various high points throughout the neighborhoods and on "Main Street", surrounding farm fields are clearly visible from inside the town. There is a definite end to the city, and a clear beginning of country. (See Appendix E for Aerial Maps of each city).

The Three Communities. Exploring the Continuum.

GLENWOOD

A. Main Street. When traveling US Hwy 275 into Glenwood, the Central Business District can be identified by its high density of buildings. When entering Glenwood's Town Square, the driver will notice the streets surrounding the square have been significantly widened, to

not only accommodate more automobiles, but for parking. In fact, on the west, north, and east side of the Town Square, the streets are 80' wide to accommodate two rows of parking in the middle of the street. Because of the parking lot found in the middle of the streets, automobiles are forced to slow down to accommodate both rows of parked cars. Furthermore, because of the parked cars, a safety barrier has been created for pedestrians wishing to jaywalk across the street. Although jaywalking is illegal, it does invite pedestrian activities to cross the street freely towards the green spaces surrounding the Mills County Courthouse.

The City of Glenwood just finished reconstructing the streets and infrastructure within the Town Square at a cost of $1.2 million dollars. New streets, sewer mains, water mains, storm sewers, lighting, sidewalks, benches, and landscaping were all completed within 8 months of construction. The architecture chosen for the streetlights and brickwork is Art Deco. By choosing this time period a smooth transition has been formed between the predominantly Victorian storefronts lining the courthouse square with the Modernist County Courthouse itself.

The courthouse was built in the 1970s, and the architecture clearly illustrates the Modernist's ideology of the time. The courthouse is a simple two story box building, and very unaesthetic. However, the Modernist era was about simplicity, cleanliness and efficiency, and this building clearly obeys the ideology. The façade of the courthouse is clasped in white cement, with small bathroom tiles creating a band between the windows. To the average individual, Modernist's cleanliness can be interpreted as the bathroom tiles around the windows *can also be cleaned while cleaning the windows.* When entering the courthouse, a large open hall appears from the bottom of the stairs. And instead of looking at

walls - countertops are used forming the perimeter of the hall, with large signs hanging above each counter illustrating it's function (locating a directory wasn't necessary). This might be efficient and clean, but due to the simplicity (both inside and out), no distinctive or unique architecture radiates from the courthouse giving Glenwood a unique identity. Furthermore, the architecture does not strengthen the historic architecture found within the Victorian facades of the buildings lining the square. Even the clock tower next to the courthouse stands in stark contrast next to the historic facades lining Glenwood's Town Square. In short, the Modernist's zeitgeist killed the overall "Main Street" Victorian zeitgeist.

The buildings surrounding the courthouse are predominantly original and rather preserved. Except for the grocery store on the south side of the square, the upper floors on most of the buildings are either preserved or have been left untouched from its original state. Although most of these second floors are vacant, any passerby would never know. The cornices, window treatments, paint, and overall facades are in relatively good condition. In fact, after observing the second floors of Glenwood's CBD, it occurred that Glenwood is actually fortunate. Most small towns the size of Glenwood has "Main Streets" with second floors largely boarded up with a cheap kitsch façade, or are altogether covered with an industrial treatment with grooves. Because of these unfavorable options, most small towns are actually blessed when property owners decide to board up just the windows found on the second story of buildings lining the "Main Street".

To date, the CBD of Glenwood is self-contained; this means an individual can do most of his/her basic shopping needs within the CBD without needing a car (assuming they can get to the CBD without a car). The population benefiting the most from a self-contained CBD is senior citizens, since most of them do not have cars (or can't drive). Other groups

benefiting from a self-contained CBD are children, teenagers, and even young adults (another group of people commonly not thought of when analyzing self-containment issues are the working poor). The CBD of Glenwood has the following stores: a hardware store, drug store, several insurance agencies, a movie theater, liquor store, grocery store, furniture store, auto parts store, post office, several beauty salons, an eye doctor, card shop, and a library. Because of this, the surrounding neighborhoods would be an ideal place for senior citizens, young families, and the working poor to live.

In terms of architecture, the buildings found lining the Town Square were studied to see if the buildings architecturally respected each other, as well as the overall "Main Street". Glenwood fared out quite well. One of the few "out of place" buildings found lining the Town Square was a pole barn structure. Abutting the Romanesque Movie Theater, the pole barn structure sits on the north side of the square. These industrial sheds have become quiet popular along the fringes of small towns (primarily used for industrial uses), since they are cheap to build and easy to maintain. And they belong out along the fringes of the community. Within the one story pole barn found in Glenwood's Town Square, there are two storefronts; in one storefront is an eye doctor and in the other storefront is the American Legion Hall. However, as obnoxious as the pole barn structures are when placed next to a Victorian and Romanesque building within a "Main Street", this building does respect the sidewalk. This supports the other traditional storefronts in keeping a harmonious line along the sidewalks, thus creating a unified streetscape. Today, it is not uncommon for small towns to have to fight in order to keep buildings up against the sidewalks.

Mills County is currently in the process of constructing a new county jail. One of the elements constituting a strong CBD is the presence of civic activities next to private

businesses. These two functions strengthen not only each other, but the overall integrity of "Main Street" by offering a mix usage environment. This also allows the CBD to not only be socially active all hours of the day, but on the weekends as well. Although space is tight within the CBD of Glenwood, there are plenty of areas surrounding the CBD the County Jail could be "creatively" developed to keep the civic activities within the core of Glenwood.

When observing the retail/commercial facilities outside the Town Square, the transportation corridors (particularly US Hwy 275) serving the community was not as developed as most bypassed communities commonly are. In the 1970s, a Place's Department store opened up along US Hwy 275 south of Glenwood, near the US Hwy 34 and US Hwy 275 junction. Today the department store is now a Pamida (a discount box retailer), with several franchised businesses either in the adjoining strip mall or within the parking lot. Pamida itself is accessible to pedestrians, especially from the neighborhoods directly behind (Pamida faces south, away from the city). The rest of the businesses are developed strictly for automobiles. Besides large parking lots serving the franchised businesses located here, auto-serving businesses can also be found here, such as a drive-thru bank, gas station, and a car wash. With the exception of the auto-serving businesses, franchised businesses such as Pizza Hut, Hardees, and Subway are accessible only by automobiles – which is unfair to the children during the summer time.

B. Street Design and Layout. Glenwood's neighborhoods surrounding the Town Square are traditional in following the gridiron design. This allowed compactness and orderly growth to occur from within the neighborhoods, as well as a disbursement of traffic to be able to facilitate along the number of alternative streets serving the overall residential

neighborhoods, schools, and the Town Square itself. It should also be noted that the majority of the traditional neighborhood streets surrounding the Town Square are still made up of bricks, in fact there are a total of 22 residential blocks within the city that still uses brick streets (equaling 2 miles of brick streets). US Hwy 275 is Glenwood's major north to south axis, also known as Locust Street within the City of Glenwood. Locust Street extends all the way from US Hwy 34 to the suburbia developments currently sprawling north of Glenwood, within the Loess Hills. Within Glenwood, Locust Street traverses one block west of the Town Square. Serving the Town Square as a major access road from US Hwy 275 is Sharp Street, also known as US Hwy 34 Business Route (this was the old US Hwy 34 before the new four lane US Hwy 34 was opened in 1974 south of Glenwood).[215]

From the early 1900s to around 1970s, the neighborhoods within Glenwood maintained a gridiron design. However, due to the recent subdivision boom north of town and outside of town, the existing gridiron streets have been stressed in accommodating the increasing traffic since no major collector roads have been built to serve the burgeoning housing developments (there are a total of 6 subdivisions currently being built). Instead, the gridiron streets have been taking responsibility in absorbing the increased traffic. The streets within the gridiron network were not engineered to serve as collector roads for these major subdivision developments inside and outside of Glenwood. As a result, with the exception of Locust and Sharp Street, there are no east to west or north to south major axis roads. And since each subdivision development is being individually developed in a piece-meal fashion outside the traditional network of gridiron streets, the residential streets have had to absorb the increased traffic stemming from each subdivision. This will continue until a residential street is widened and officially designated as a collector road, or a collector road is built to

the north of these developments, with the ultimate goal of facilitating traffic towards US Hwy 275 and US Hwy 34. However, this will only invite more housing to be developed north of Glenwood.

Immediately east of the Town Square and across Keg River are soccer and baseball fields, making up Glenwood's City Park and Recreational Area. Several baseball fields, soccer fields, and a high school track is actively used by the nearby high school, residents of Glenwood, and the surrounding rural areas. The high school is located north of the recreational area, off of 4th street. The high school itself is well served by neighborhood sidewalks making it quite accessible for the students lucky enough to walk to school from home; the recreational area, however, is not. In fact, over on Sharp Street, the Sharp Street Bridge crossing the river has a sidewalk; however, Sharp Street *before* and *after* the bridge does not. Furthermore, the traffic entering and leaving the City of Glenwood on Sharp Street (US Hwy 34 Business Route) is quite heavy, making the street too dangerous for children and adults to even attempt walking or riding their bikes out to the baseball and/or soccer fields.

As growth took form within Glenwood in the early 1900s, the network of gridiron streets was actively utilized. By the middle of the 1900s the gridiron was continued in utilization, on a much larger scale. However, the 1970s brought an end to the gridiron street design. Instead of continuing the network of gridiron streets, three conventional subdivisions emerged along the northern corners of the city. These three suburbia developments in terms of street design and layout currently make up the northern city limits of Glenwood. The first development, Glenbrook, is located west of US Hwy 275 and north of 6th Street. All the streets south of 6th street are part of the original town's gridiron pattern. The second

development was never officially entitled; however, for this thesis the development will be entitled the Jens and Owens Subdivision since these were the two main developers during the beginning period of development. The Jens and Owens development is probably the most important development of the three since it is located off the northwestern corner of the elementary school. The elementary school is accessed from the south, through three north to south streets: Walnut, Vine, and Linn Streets. The elementary school was the end of the original corporate limits of the City of Glenwood, serving as a terminal to the gridiron network of streets. However, on the north side of the elementary school, on the other side, the Jens and Owens Subdivision has voided the school as a terminal. And rather then continue the traditional gridiron pattern, the Jens and Owens opted for the curvilinear suburbia street layout.

As part of the original gridiron network of streets, the three "access" streets serving the Jens and Owens development from behind the elementary school (Walnut, Vine, and Linn Street) stems off of the immediate network of streets surrounding the Town Square. Of these three streets, however, Linn Street does not serve the CBD directly. And this street not only holds the highest traffic volume of the three streets, but the highest in the City of Glenwood. Three different spots along Linn Street were chosen by the Iowa Department of Transportation to do a traffic count analysis in 1996 and 2000. In 1996, an average of 1,680 cars a day passed along Linn Street to Sharp Street; however, before 10th Street (the designated "collector road" for the Jens and Owens developments), there was an average of 2,670 cars a day.[216] In 2000, an average of 2,540 cars a day passed along Linn Street to Sharp Street; however, before 10th Street (the designated "collector road" for the Jens and Owens developments), there was an average of 3,110 cars a day.[217] In just four years, an

increase of approximately 1,000 cars took place. The reason is obvious for the high concentration of cars within this part of town, the location of the elementary school. However, the reason for the sharp increase can be attributed to the continued growth of the Jens and Owens subdivision, since this subdivision has continuously been developing since the 1970s. As more houses go up, the same streets serving the subdivision increases in traffic count. Not one road has been built since the Jens and Owens subdivision began in the 1970s. These traffic numbers will only continue to increase since there are no other access roads for this subdivision. As a result, increased traffic will continue to go around the elementary school, and the consequences will be felt not only by the school children, but the children and families in the immediate neighborhoods surrounding the school.

In looking at the numbers presented from the traffic analysis on Linn Street, two general reasons can be given for the sharp decline of cars traveling from the elementary school to Sharp Street. According to the "Traffic Flow Map" for the City of Glenwood (2000), an average of 2,370 cars were counted on Linn Street, immediately north of Sharp Street.[218] This is a difference of 740 cars between the two locations. First and foremost, automobiles south of the school are able to disperse among the network of the gridiron streets towards the CBD. The second reason, and perhaps the main reason, many automobiles take a sharp turn west on 4th Street, this street connects to US Hwy 275. 4th Street is the first "east to west" street all three streets leading from the elementary school passes through (the same streets serving the Jens and Owens subdivision). And because it's the first "east to west" street connecting to US Hwy 275, 4th Street has involuntarily become a designated "collector road."

The third development found within the City of Glenwood is Golfview. Golfview is located east of Linn Street (east of the elementary school), and is sandwiched by Linn Street and 4th Street (after passing the high school, 4th Street veers north, encasing Golfview with Linn Street). To date, the development has four access roads (one road in each corner of the development). However, since the entire City of Glenwood is directly south of the development, the two southern access roads located on Fairview Dr. are obviously used the most. Just as the Jens and Owens subdivision, Linn Street is also used as a major thoroughfare for the channeling of traffic to and from the development. Furthermore, the access road leading into Golfview (Fairview Dr.) is north of 4th Street, thus providing us with another answer to the high concentration of cars found on Linn Street near the elementary school. For the year 2000, there were an average of 2,230 cars passing through 4th Street on a daily basis.[219]

As stated above, the most obvious problem with these three suburbia developments within Glenwood is the lack of collector roads to adequately serve them in terms of transportation. The only way these three developments can be accessed is by driving through the traditional network of gridiron streets making up the residential neighborhoods. And these three developments are not yet complete. As more housing is built, these three developments will further add congestion to the gridiron streets serving them, primarily Locust Street, 4th street, and Linn Street.

North of Glenwood, immediately outside the city limits, three more developments have recently emerged within the last 10 years: Gateway Additions, Glenview, and Broadmoor Estates.

Gateway Additions was developed in 1997, and consists of two streets both terminating into a cul-de-sac. Located well outside the city's limit and past the Glenwood's Municipal Cemetery, Gateway Additions does not connect with the City of Glenwood in any way, and does not even attempt to. Like most conventional subdivisions, this subdivision has large two-car driveways complete with a basketball hoop. However, Gateway Additions does utilize sidewalks, which is ironic since these sidewalks lead to no destination within the development, with the exception of retrieving mail out of the mailboxes. And since this development is a street branching off into two cul-de-sacs, residents can't exactly walk around the block here. But most importantly, the sidewalks do not connect to anything *outside* the development. This shouldn't be surprising since the development is only accessible through US Hwy 275, outside of the city limits. Once leaving the city limits cars increase in speed since not only does the speed limit increase, but because of the psychological feeling of "now leaving the city" tells you to speed up.

The subdivision's mailboxes are all conglomerated at the entryway serving Glenwood Additions (here is the one and only reason to utilize the sidewalks). This element alone begins the erosion of the social well being of the neighborhood since not only is there a loss of interaction between the Mailman and residents, but the mailbox unit also illustrates the emphasis of seclusion and individuality to outsiders entering the development. It's as if the residents have "marked" their territory.

Continuing north on US Hwy 275, Glenview Developments is the next development found on US Hwy 275 outside of the City of Glenwood. Glenview Developments is approximately half a mile from Gateway Additions, and one mile outside of Glenwood's city limits. Of the three subdivisions outside of Glenwood, Glenview Developments is the oldest

development, being developed in 1990. Like Gateway Additions, however, Glenview Developments is also made up of one street branching out into two cul-de-sacs. However, no curbs or gutters are employed within Glenview Developments (for storm water drainage purposes). Also, housing lots within Glenview Developments are much larger than the housing lots in Gateway Additions, and sidewalks have been eliminated completely. The street corners are very generous and wide, enabling traffic to continue driving the same speed limit they were driving on US Hwy 275. What's interesting about Glenview Developments are the E911 tags posted outside of each house identifying its address. This is needed since the houses are distanced too far from the street for emergency personnel to locate during an emergency. However, this also allows the driver an opportunity to continue driving fast since they don't have to spend time searching for the addresses on each house.

Broadmore Estates is the last development analyzed for this thesis, since this development is the last development before reaching Glenwood's water tower (although these three developments are outside of the City of Glenwood, the developments were analyzed for this thesis since they all draw on Glenwood's municipal water). Broadmore Estates is the ultimate classic in terms of suburbia ideology. Rather than individual housing lots, each house is generously subdivided into acreages. Just as Gateway Additions, mailboxes are conglomerated at the entryway for the residents to pick up their mail. However, at Gateway Additions the residents had the option of being able to walk to their mailboxes; the mailboxes in Broadmore Estates are designed strictly for automobiles (drive-thru). Furthermore, the mailboxes are too far from any of the houses, and since the topography of Broadmore Estates is quite hilly - any attempt to leisurely walk to these mailboxes would be quite the challenge.

Broadmore Estates is the protege praised by the environmentalists since the street layout and design does not impose itself on the hilly terrain, rather the streets and houses respect the hills. The roads follow the contours of the hills and the houses are nestled within the landscape. However, as environmentally and romantic this setting may be, this development offers the worst social environment for children, and even for neighbors for that matter. Isolationism at its best, totally unhealthy for children. Its bad enough children are secluded from the city while growing up in a suburb, but its worse when the children are secluded from each other within the same housing development, even from the child next door. It is not uncommon to find golf carts quite popular within these types of communities, since golf carts allow children (and adults) some freedom in getting around the "neighborhood." Environmentalists may tout all the reasons supporting these types of developments, however, they don't offer any advice on how to make these affordable for working class people (after all, how many people do you know own a golf cart?).

In conclusion, the suburbia developments within the City of Glenwood (Glenbrook, Jens and Owens, and Golfview), are not well served by transportation means, and are not well connected to the gridiron network of streets surrounding the Town Square. No doubt these developments are suburbia in nature, mainly by disrespecting the surrounding small town atmosphere in terms of street design, layout, and accessibility. However, these three developments within Glenwood do respect the compactness of the traditional neighborhoods surrounding the Town Square. All three developments also employ sidewalks themselves. As a result, the three developments within Glenwood are accessible to the surrounding neighborhoods by sidewalks, enabling children to access other parts of the city, even downtown or to the parks. However, the three developments analyzed outside of Glenwood

will continue to be secluded and isolated from the City of Glenwood. Not only are these three developments separated and distanced from the community of Glenwood, they are accessible only by an automobile off of US Hwy 275.

C. Social Welfare. Glenwood's residential growth is clearly outgrowing its commercial/retail growth. Because of the strong growth in population and the lack of economic activity, the CBD has remained sustainable in local hands. As a result, the CBD is self-contained for anyone not having a car that lives close enough to walk or ride their bike. Furthermore, the neighborhoods and schools are small, compact, local, and accessible by pedestrian means. Because of the gridiron network of streets, destinations are possible, such as the library, church, a friend's house, the CBD, schools, and last but not least, parks. This is beneficial to the community as a whole when children, young adults, and even senior citizens can safely walk/ride their bikes to these places. However, as housing growth continues to adopt suburbia growth standards north of Glenwood, Glenwood will need to prepare itself. Suburbia within Glenwood has been achieving quite the opposite, as the three developments north of Glenwood have so far already demonstrated. They are confined and secluded, there are no destinations, there are no open spaces, and last but not least, a car is needed to sustain a livelihood.

In terms of social welfare in relation to its street layout and design within the three developments north of Glenwood, the City of Glenwood is developing away from a positive social environment and more towards satisfying the suburbia ideology. By allowing the growth north of the city's limit continue its development in a suburbia mindset, the *altstadt* of the City will begin to erode. Furthermore, as developments continue to spread outside of

the city limits within the Loess Hills, US Hwy 275 will continue to increase in traffic fulfilling its role as preventing social interaction from occurring. Because of this, everyone becomes a victim within a small town. Parents, children, senior citizens, as well as the drivers and passengers in the automobiles. This affects everyone. The increase in traffic density as more and more families increasingly become dependent on their automobiles will continue to make pedestrians and other automobiles within the city vulnerable and unsafe, and will ultimately diminish pedestrian activities.

Although constructed on the fringes of the old gridiron network of streets within Glenwood, the schools are adequately tied into the neighborhoods through the use of the gridiron network of streets and sidewalks. However, as the six subdivisions currently continue to develop, the automobile trips and density are going to continue increasing, thus increasing the density of traffic within these streets. Furthermore, as the population continues to grow, the schools may be threatened on grounds of becoming too small or inadequate. Will Glenwood expand their schools within the corporate limits?

D. Conclusion. Transportation Model. When Glenwood was first platted, the city emerged as a monocentric urban model. Because of the central location of the Town Square within Glenwood, the peak of the monocentric urban model is easy to identify. The monocentric urban model continued well into the 1970s, until the three inner subdivisions began to flourish along the northern periphery of the city. As these subdivisions emancipated its street layout, the gridiron network of streets began to choke on the increased traffic stemming out of these new developments. As a result, Glenwood's monocentric urban model began to swell unevenly towards the north, which enabled US Hwy 275 to establish

itself as a commercial corridor, serving the increased traffic stemming from the growth. Furthermore, in the 1990s, the three subdivisions (Gateway Additions, Glenview Developments, and Broadmore Estates) began to develop north of Glenwood, outside the city's limit; this continued to invite more traffic to facilitate unevenly within the City of Glenwood and the Town Square. As a result, US Hwy 275 new status began to transform Glenwood into a corridor urban model. However, partially. US Hwy 275 did become Glenwood's main thoroughfare by facilitating the growing volume of traffic within the City of Glenwood and northern Glenwood to and from US Hwy 34. However, Glenwood's transportation model is unique in that this corridor sideswipes the Town Square, thus strengthening the square's businesses simultaneously. Rather than the increased traffic having to squeeze through the square on one avenue (thus frightening pedestrians away), the traffic instead can take a number of alternative routes offered by the gridiron network of streets off of US Hwy 275 when accessing the square (and other destinations around the square). This offers the driver eight possible different access points. As a result, traffic is able to facilitate efficiently around the square, not through the square. And the entire square is strengthened equally in terms of accessibility and land use values. Therefore, of the two models presented here the monocentric urban model (with a hint of the corridor model) dominates Glenwood. However, this can easily change. The vast amount of land along US Hwy 34 has not been developed, nor has the area across US Hwy 34. These areas are still being used as farmland. If these areas should develop soon, Glenwood will no doubt become a corridor community, and less monocentric. And as a result, US Hwy 275 within the town will act as a scrubber while traffic moves from the south end of the town to the north, and

vice versa. This means higher traffic congestion, higher accident rates, and the emergence of road rage normally found in larger communities.

MISSOURI VALLEY

A. Main Street. Missouri Valley's "Main Street" has had its share of problems. The foremost problem being US Hwy 30, which is not exactly Missouri Valley's fault. First, US Hwy 30 within Missouri Valley also happens to be its "Main Street", which in 1996 had 9,800 cars passing through on a daily basis, 3,000 cars less than the average daily traffic found on I-29 between Sioux City and Missouri Valley.[220] In 2000, the "Main Street" along US Highway 30 had 9,600 cars passing through on a daily basis, 200 cars less than recorded in 1996.[221] Second, the infrastructure and streets serving the "Main Street" of Missouri Valley are grossly inadequate and poor. The sidewalks are narrow and unsafe, traffic has increasingly become heavier over the years, and the infrastructure hasn't been updated since the 1930s (simply because Missouri Valley haven't had the chance due to the dominating role of US Hwy 30). Last, but not least, due to accessibility of I-29 from Missouri Valley, trade is actively done in Council Bluffs, located fifteen minutes away. Because of this, most of the businesses found along "Main Street" are oriented towards service: realty, accounting, insurance, financial, and doctors.

The overall "Main Street" of Missouri Valley has been outfitted with large repugnant street signals and cobra lights, primarily because of the presence of US Hwy 30. Both the street signals and cobra lights are urban in style, thus dominating the streetscape and disrespecting the local identity of Missouri Valley's "Main Street". When this is combined with the high volume of loud traffic, pedestrian activities is hardly welcomed to take place

along the CBD. In fact, drivers are reluctant to park along the store fronts abutting US Hwy 30 because of the fear of getting hit by a semi roaring by.

In looking at the overall architecture of the buildings making up Missouri Valley's "Main Street", the buildings are not very well preserved. The historic buildings all resemble early Victorian; however, the Victorian buildings are not all agglomerated together in a unified manner, in which a compact "Main Street" is formed. Instead, each set of Victorian buildings is spaced apart from each other, with ordinary inexpensive one-story structures filling in the spaces between. It's as if the WWII fire bombing occurred over Missouri Valley, and rather than rebuild the bombed out Victorian buildings, cheap one-story buildings were quickly erected to save the economy. It seems for every nice building there are three one-story infill buildings.

The buildings making up the overall "Main Street" of Missouri Valley are not uniformed, each of the buildings are too individualistic in style, appearance, and/or function. None of the buildings respect each other in terms of architecture. The Victorian buildings are not only lacking elegance in terms of architecture, they are dirty (from traffic dust) and not well maintained. Not only are the infill buildings one story, most of the facades of these buildings are uninviting, either boarded up to encase smaller windows, or just simply deteriorating as a result of abandonment. Furthermore, several buildings are pole barns, which does not contribute to vernacular architecture at all. The clothing and hardware store are both individually housed in industrial sheds. This is ironic since these types of activities would have normally been housed in an attractive building on "Main Street" for impressionistic purposes. Last but not least, the bank on "Main Street" is a one-story bank surrounded by a parking lot. This is a suburbia design principle crammed into a "Main

Street". It's one thing when a one-story building is built in a CBD, it takes away the opportunity of providing affordable housing on its second floor - but it's another thing when a property is torn down for parking spaces. This type of design erodes the overall integrity of "Main Street". In short, because of a one story building, particularly a building serving an automobile by providing parking lots and a drive-thru - affordable housing, compactness in the overall "Main Street" and complete streetscape, and pedestrian activities are all lost; since the automobile now dominates the pedestrian in the name of efficiency. Simply put, instead of parking the car and walking into the bank – drivers are given the opportunity to make use of the drive-thru, this disrespects the entire integrity of Main Street.

While walking Missouri Valley's "Main Street" it's easy to notice how the signs above the businesses are difficult to read, since they are intended for the automobiles. However, the signs may be scaled for automobiles, whether or not drivers can actually see them depends on how fast traffic is going, most of the traffic passing through the CBD are drivers concerned about getting from Point A to Point B as quickly as possible.

In analyzing whether or not Missouri Valley is self-contained, businesses within walking distances were identified. The retail and commercial businesses found on Main Street included a bank, clothing store, grocery store, and a hardware store. The grocery store is actually situated between the "Main Street" and the neighborhood, this provides very good accessibility for pedestrians walking or biking from the neighborhood since the store serves as a transitional destination. However, as stated above most of the activities found on the "Main Street" are predominantly service sectors. It needs to be noted, however, within the western neighborhood of Missouri Valley, on a major thoroughfare, a grocery store, two drug stores, and a big box have been developed. And these four stores are very accessible for the

pedestrian since the parking lots are not large and dominating. This makes the immediate neighborhoods surrounding these businesses mix usage. While most of the businesses found along "Main Street" are service related, there are businesses within the "Main Street" and the neighborhood allowing for self-containment. There are two nursing homes with approximately 50 units; and to have the grocery store nearby is almost a godsend to the senior citizens without a car.

On US Hwy 30, before and after the CBD, a slew of auto related businesses dominates the corridor: industry related activities, gas stations, auto repair centers and garages, a junk yard, and implement dealers. These auto-serving businesses not only add to the high traffic volume on US Hwy 30 within Missouri Valley, but are unaesthetic as well.

Along the US Hwy 30 and I-29 interchange, several Interstate-serving businesses has recently opened due to the city's expansion of water and sewer. While the development has been modest compared to most development found along Interstate interchanges, the accident rates between the Interstate and built up portion of Missouri Valley has been recorded to be significantly higher than the state's average (three times higher). This completely discourages any chance of pedestrian activities occurring near these businesses.

B. Street Design and Layout. Missouri Valley's geographical location limits the overall application of street design and layout. The city has been developed along a major east to west Union Pacific railroad artery running parallel along the US Highway 30 corridor. The city has also grown up against the steep sides of a Loess Hill, and is also within three floodplains and a major watershed. Because of the tight space Missouri Valley is situated within, Missouri Valley have not been allowed to develop in the suburbia fashion most

communities have been enjoying since post WWII. In fact, the amount of housing built since post WWII has been a meager 6%.

Missouri Valley "Main Street" is predominantly located between 1st street and 6th street. Since US Hwy 30 runs one block south parallel to the Union Pacific's tracks, residential growth over the years has occurred between US Hwy 30 and the rising Loess Hill behind the city. As the city developed along the steep hillside, the gridiron network of streets remained intact. As a result, compactness ensued, traffic is dispersed, and pedestrian activities are able to take place. Furthermore, several alternative routes are available to reach the following destinations within the neighborhoods: the county hospital, schools, city's cemetery, several churches, and last but not least, Missouri Valley's "Main Street". The lower part of the neighborhood is well served by sidewalks, and cars are able to park along the side of the streets, creating a safety barrier for pedestrian activities. The lower part of the neighborhood also employs alleys, providing additional parking and play areas for children. As the neighborhood reaches towards the top of the Loess Hills, the traditional compactness of the city terminates at St. Claire Street, the last street running east to west along the hill. This street also serves the hospital and schools. The neighborhood streets continuing up the hill from St. Claire Street retains the gridiron form, but housing begin to be situated on larger lots, and ultimately becomes one-story ranch houses (a suburbia invention). Furthermore, alleys and sidewalks are done away with and mailboxes start to appear out along the street. As the neighborhood reaches the top of the hill, the gridiron street pattern is abandoned. The city's cemetery is located as a terminus on top of the hill, as well as farm fields. However, sprawl has been occurring within the Loess Hills, along the few roads leading into the Loess Hills. The ending point of the traditional gridiron neighborhoods is Longview Nursing

Home, located on Liberty Avenue. Mailboxes actively occur along the street, and E911 tags soon identify the houses in terms of addresses. As Liberty Ave continues to wind into the Loess Hills, the curb and gutter system is done away with. Until recently, there was not a problem with sprawl within the Loess Hills since it has brewed slowly and steadily, and the transportation routes serving the Loess Hills are very poor and inadequate. The transportation routes serving the Loess Hills are still poor and inadequate, but developers nevertheless has began to develop housing within the hills.

During the late 1990's, a local realtor in town began developing approximately 40 acres of farmland into a housing development entitled Eagle Ridge Acres. This housing development is tucked away off of Liberty Avenue a couple of miles into the Loess Hills north of Missouri Valley. Liberty Avenue goes into the Loess Hills and then eventually winds down to State Hwy 183, just outside Missouri Valley's northern city limits. The problem with the development is its accessibility; it is not well served by Liberty Avenue. There are two ways for the driver to access the development; one is accessing Liberty Avenue through the residential neighborhoods of Missouri Valley, the other is by taking State Hwy 183 out of Missouri Valley, and then taking Liberty Avenue through the Loess Hills. This is a time bomb for several reasons. First, the Liberty Avenue stemming off of State Hwy 183 is seal coated all the way to the top of the Loess Hills, and is in extremely poor condition. Second, to continuously drive up through the gridiron network of streets within Missouri Valley to reach Liberty Ave. near the Nursing Home is very time consuming and intense for the driver. The gridiron streets were not designed for this activity. The increasing traffic will not only cause congestion within the neighborhoods, but will produce unsafe corridors for children to play within. Third, both of the access points to the Eagle

Ridge Acres requires the driver to drive through Missouri Valley in order to reach the development, which chokes up traffic within the city. Fourth, since Liberty Avenue is a County Road outside of the city, the road is not the responsibility of the city to maintain, causing hostility among the city officials and residences within the Loess Hills. Last but not least, the development is completely segregated from the City of Missouri Valley, both socially and physically. This is a problem for school children wanting to their bikes and socialize, and for emergency vehicles needing to reach the development in case a fire should break out (or someone is having a heart attack). If growth continues to develop in this fashion within the Loess Hills above the city, the entire City of Missouri Valley will be subsidizing the indirect costs for services, infrastructure, safety, and welfare of the development.

In terms of transportation, Missouri Valley is also served by State Hwy 183. State Hwy 183 enters Missouri Valley from the north, and becomes 1st Street within the city's limits. State Hwy 183 then exits Missouri Valley out of the south on 6th Street. Although State Hwy 183 is a state highway, commercial development have predominantly occurred along US Hwy 30, rather than 183. However, State Hwy 183 is a designated collector road for facilitating high volumes of traffic, State Hwy 183 also runs the length of the Loess Hills, spanning the western edges of Harrison County. Because of this, high volumes of traffic due to the Loess Hills traverses through the City of Missouri Valley, especially through Missouri Valley's "Main Street".

In the 1950s, development occurred on the other side of Willow Creek, the western corporate limits of Missouri Valley. However, due to Willow Creek's floodplain, development has not been very successful in this area of the town. These residential blocks

are linked to the *altstadt* of Missouri Valley through West Huron Street, which runs along US Hwy 30 in a parallel fashion, one block south. West Huron Street eventually turns south and junctions with US Hwy 30, making this residential neighborhood extremely accessible to I-29. Residents living within this neighborhood do not need to go through the City of Missouri Valley in order to access their neighborhood (however, they will have to risks the railroad tracks, which hosts approximately a hundred trains a day). Furthermore, the area between West Huron Street and US Hwy 30, west of Willow Creek, is home to the Harrison County Fairgrounds and the City of Missouri Valley's Municipal Pool. These areas are very accessible to the residential neighborhoods within the floodplain, and are also well connected to the *altstadt* of Missouri Valley. The West Huron Street Bridge serving the Fairgrounds, Municipal Pool, and neighborhoods west of Willow Creek has wide sidewalks connecting to the city's sidewalks along West Huron Street.

C. Social Welfare. The surrounding neighborhood ties into Missouri Valley's Central Business District quite well. The schools, hospitals, grocery stores, and even the restaurants found along the Central Business District are very pedestrian accessible. And Missouri Valley has an extraordinary opportunity ahead - a bypass for US Hwy 30 is being planned south of Missouri Valley. When this bypass is completed, the traffic within the CBD will drop dramatically, eliminating virtually all of the semi traffic. The noise, pollution, risks, and congestion associated with US Hwy 30 will all but disappear.

The neighborhood of Missouri Valley rests on the slope of one of the Loess Hills. As a result, the streets are on a sharp grade. As the neighborhood climbs the hill, the neighborhood becomes predominantly suburbia in characteristic. Curb and gutters are

eliminated, and eventually sidewalks. Front yards begin to increase in square footage, as well as driveways with garages out front. In some areas, E911 tags are placed in front of the house for emergency personnel. However, pedestrian activities are still able to take place, since the gridiron street layout has been sustained. Traffic on top of the Loess Hill is light since the neighborhood ends here. However, as development continues to encroach within the Loess Hills, this will all soon change as Liberty Avenue continues to be transformed as a transitional arterial road.

The neighborhood below the hill, immediately north of the Central Business District, is very accessible for pedestrians. The Missouri Valley Community Swimming Pool is accessible by the population by foot (or bike), as well as the many churches, businesses, the library, City Hall, schools, and even the hospital. All of these destinations are located either within, adjacent, or near the CBD and the surrounding neighborhood.

D. Conclusion. Transportation Model. Because of the railroad running parallel to US Hwy 30, Missouri Valley has grown more as a monocentric urban model community influenced by the corridor urban model design. The city does have a monocentric urban model layout, however, it is squeezed between three parallel and physical boundaries: the Union Pacific Railroad, US Hwy 30, and the base of the Loess Hills (although Missouri Valley does grow up alongside of the hill). Since the physical boundaries will always be present, Missouri Valley has no choice but to continue growing as an influenced monocentric urban model. However, eventually Missouri Valley will become predominantly a transportation corridor model. The I-29 and US Hwy 30 interchange has not fully developed. Currently, there are a couple of Interstate serving businesses out along the Interstate, which

all has recently been developed within the last ten years, due to the extension of water to the area. If this area should further develop in a commercial/retail manner (as the City of Missouri Valley would like), this area will have a large impact on the overall growth of Missouri Valley. No doubt, future growth will develop around the Interstate, possibly on the other side of I-29 towards the Missouri River. The City of Missouri Valley would then essentially be a polycentric urban model.

While sprawl is a problem on top of the Loess Hills, above Missouri Valley, this is a very controversial issue right now not only within the city, but with the county as well. First, the Loess Hills has a lot of support in preservation, making sprawl a very controversial and ugly debate within the eight counties the Loess Hills span. Second, the roads will not be graded any time soon to support the growth (and emergency vehicles). Last, but not least, there is no municipal sewer or water within these developments, and if the DNR should ever enforce the city to provide sewer or water, lawsuits will be filed. And developers know this.

WALNUT

A. Main Street. Walnut's "Main Street" is only one block long. All but six buildings are one story, and all but one building is extraordinarily simple. This is most likely due to Walnut being a railroad product, with the intention for farmers to pick up supplies and do minor trade. As a result, a simple "Main Street" was constructed. Since Walnut's population remained stagnant for the last fifty years, and the economic role of the town remained a farmer's marketplace, the absence of growth actually preserved "Main Street." This is due for a number of reasons. First and foremost, the automobile didn't have its opportunity to influence storefront designs, such as large showroom windows and large signs. Second, the

slow and limited economy most likely discouraged business owners from remodeling the store fronts to modernize themselves. Because of this, the buildings have a rugged façade, which have aged gracefully. Even the street hasn't been upgraded; bricks are still employed.

The railroad formed the southern city limits of Walnut, in which the "Main Street" formed a T intersection off of the tracks. Because of this, farmsteads are clearly visible off of "Main Street." This clearly defines where city ends and county begins, and also offers a picturesque view enabling a sense of place to be established. Running parallel to the railroad tracks is Pearl Street. Along Pearl Street industry activities operated, industries the railroad supported. Today industry activities along Pearl Street are gas stations, tank farms, a fire station, and grain binaries.

In terms of Walnut's "Main Street" being self-contained, there is one grocery store, which is not in the "Main Street" area. Instead, the grocery store is located along the main thoroughfare entering Walnut (Antique City Drive), approximately one block north of North Street. Although accessible by the neighborhood, the grocery store is located outside of the built-up portion of Walnut, towards the Interstate.

In the 1970s, when the railroad pulled out of Walnut, the town died. Because of a couple of visionaries in the early 1980s, Walnut declared themselves as an Antique Center on January 16, 1987. As a result, the "Main Street" of Walnut became alive again, as an Antique Mall. While antiques offer no economy for the residents of Walnut, it does provide a vibrant downtown. It also provides an economy indirectly, through antique festivals, bed & breakfasts, and tourism. But the other way it provides an economy indirectly is by providing a local charm that is 100% vernacular and pure. There is not one corporate franchised business in the entire town of Walnut, and there is not one vacant store front. While walking

the "Main Street" of Walnut, you forget that you are a consumer, and instead you feel like you have gone back in time. You are forced out of your car once the car enters the brick streets. Hearing the rumbling and feeling the car bounce quickly alerts the driver to slow down. As the driver slows down, the driver notices the vernacular architecture, authentic period lighting, painted murals, rustic street benches - and wants to get out to see, smell, and touch the "Main Street".

B. Street Design and Layout. The City of Walnut is served by two major and one minor thoroughfare; State Hwy 83, Antique City Drive, and County Rd G16. State Hwy 83 enters the southern edge of the community from the west, forming the southern corporate limits of Walnut. Also known as Pearl Street, Pearl Street paralleled the old railroad tracks, and supported the small industries reliant on the railroad. As stated in the section dealing with "Main Street", today Pearl Street serves a gas station, tank farms, grain binaries, and a fire station. When State Hwy 83 reaches the end of "Main Street", State Hwy 83 turns south and exits Walnut. County Road G16 forms the northern corporate limits of Walnut, with the exception of the land annexed along the Interstate. Within Walnut, County Rd G16 is North Street. When driving in from the Interstate, the City of Walnut does not officially begin until the driver crosses North Street, which is approximately one mile south of the Interstate. To reach Walnut, the driver drives along Antique City Drive, which becomes the "Main Street" of Walnut, extending all the way from I-80 to State Hwy 83. Antique City Drive was formerly known as Central Street, but in 1988 the name was changed as part of rejuvenating Walnut. Of the three major thoroughfares serving Walnut, Antique City Drive carries the

most traffic due to the Interstate; however, the majority of traffic disperses through the gridiron network of streets before reaching "Main Street".

When driving into Walnut, the small town atmosphere does not commence until the driver reaches North Street. It must also be noted, before officially entering Walnut, Antique City Drive holds a highway format in terms of design, complete with the large open swales abutting the sides. However, once North Street is crossed large oak trees and old fashion period lighting officially welcomes the driver to Walnut. The driver immediately slows down due to the large trees looming above the roadway, and the presence of the curb and gutter. Furthermore, with the compactness of the houses along the street, a sense of identity is established for Walnut due to the preserved facades of the housing. The driver will ultimately slow down just to observe the distinct architecture within the large houses lining the street. The yards and houses are well maintained and preserved. After driving a couple of blocks, the Walnut Community School emerges along the left, stretching two whole blocks. Then the driver enters "Main Street". All along Antique City Drive, sidewalks are provided for pedestrian activities. Sidewalks even provide pedestrians access to Walnut's only Grocery Store, even though its north of County Rd G16, outside the city corporate limits.

With only 326 housing structures, and with a growth of approximately 125 housing structures since post WWII, the layout of the City of Walnut has remained at a standstill over the years. The residential neighborhoods have branched off Walnut's "Main Street" in a network of gridiron streets. The residential neighborhoods are compact, accessible, and pedestrian friendly. Although most of the neighborhoods are not well served with sidewalks, curbs, and gutters - alleys are employed, and the streets are quiet due to the low volume of

traffic. Furthermore, cars are able to park along the streets offering a safety barrier for pedestrians and forcing cars to slow down. Walnut is a small compact community, to walk from one end of the town to the other takes less then ten minutes. Also, a lot of houses were never built but planned for, the streets were even mapped for these future houses when the town was officially platted out. This reinforces the traditional planning small towns used to implement, laying out future streets to meet its desired growth and pattern, allowing the houses to develop within the designated lot lines. Numerous vacant blocks meant for housing never materialized; today these vacant blocks are used for farming.

In the late 1990s, a local realtor developed a housing development outside of the traditional layout of the city. Being developed in "phases," the first phase currently has 13 plots, with two houses built to date. Even though the development is outside the established gridiron network streets, the subdivision does connect with the *altstadt* of Walnut. Furthermore, the subdivision employs sidewalks, curbs, and gutters; and overall respects the traditional layout of the surrounding street design and layout, by requiring its housing to have short front lawns. Pedestrian activities are not only possible, but social interaction is encouraged within the residents and neighbors.

One of the biggest asset of Walnut is its school. The school is located right outside of the "Main Street", within the residential neighborhood along Antique City Drive. The school plays a strong role as a destination for children within the community, since its playground equipment is very accessible and inviting. The school location also allows the children living within Walnut to walk to school, and home for lunches.

Northwest of Walnut along North Street is the Verteran's Memorial Park. The park is accessible from the neighborhoods, and provides a baseball and football field. This is where

the Friday night football games take place within Walnut. Parents and children can easily walk here, or they can drive (although more time would probably be spent parking then driving).

Walnut is very fortunate since future city blocks have not only been proactively planned for, but the streets are already laid out. As Walnut grows, it can actively fill these blocks in with housing. As a result, the gridiron network will actively sustain itself, continuing in providing compact neighborhoods, alternative routes for traffic, and pedestrian accessibility. Although the one development occurring north of County Road G16 did not occur with the City of Walnut, the development does respect the traditional gridiron network of streets within Walnut, and will eventually tie in with the neighborhoods as houses are filled in.

The biggest challenge ahead for Walnut is the Antique City Drive corridor between County Rd G16 and the Interstate. If not planned for accordingly, this area can be developed strictly for automobiles, thus choking off all potential pedestrian activities, which could paralyze Walnut as the Interstate Interchange continues to develop.

C. Social Welfare. Because of Walnut's simplicity and size, the social environment within Walnut is tremendous. Furthermore, because of the land-usage containment within the town (there no are secluded housing developments calling for automobiles to be a transition), activities can be harmonized. In other words, if there is play practice after school, parents living within the City of Walnut will not have to juggle their schedules around in order to make sure their child has a ride home from school. Instead, their children can just walk home after school (which also helps the children learn self-reliance). The Walnut

Community School is an extremely valuable asset for the city - socially, physically, as well as economically. In 1998, a $2 million bond was passed to implement sustainability measures in order to keep the school from closing. The issue was vital to the city's future, and the bond passed a landslide victory. Next to the school, Walnut's residents built an enormous community playground (it's actually a fortress). Since this playground is part of school, which fits within the neighborhoods due to the gridiron layout of streets, the playground also dubs as a City Park.

In terms of street design, due to the nature of the gridiron network of streets, pedestrian activities can easily thrive. Sidewalks exists in most parts of the town, however, in the areas where sidewalks are not used, traffic is either non-existent or slow due to the parked cars, trees looming along the side of the road, and the narrow streets themselves. Because the streets do not infringe on the pedestrians, pedestrian accessibility is allowed to flow freely to all parts of the town: the "Main Street", grocery store, nursing home, the many churches, the school, and last, but not least, Veteran's Memorial Park (Friday night football game).

Last, but not least, as stated above, since "Main Street" was at a standstill during the 1970s and 80s, the integrity of "Main Street" was preserved. As a result, the automobile did not intrude by having transportation policies upgrade the transportation infrastructure within Walnut. As a result, the "Main Street" is still pedestrian friendly since it offers its streets to both functions. For example, by employing brick streets. By having a brick surface, cars immediately slow down due to the psychological feeling and hearing of the rumblings under the tires. Pedestrian activities are not threatened by cars racing through.

D. Conclusion. Transportation Model. As stated in the "Main Street" section, because of Walnut's fate during the seventies and eighties, the city growth came to a standstill. Since no residential growth has occurred since then, Walnut still holds a pure example of a monocentric urban model. The "Main Street" and the school serves as the peak of the model, and the neighborhood grows smoothly off of the two nodes. In the late 1990s, the City of Walnut was very active in promoting the I-80 interchange. As a result, McDonalds and two gas stations have opened up. Since these are Interstate serving businesses, these properties have had no effect on the monocentric urban model of Walnut. However, in the mid 1990s, an outlet mall almost opened up along the Interstate. If this would had happened, the dead zone between the city and Interstate along Antique City Drive would have most likely been developed in a rapid manner. Walnut could have easily become a corridor urban model community overnight. And Walnut still could. Currently, the area between the city and Interstate is zoned for commercial and residential growth. The city should proactively plan on whether to rezone this area agriculture with strict regulations in terms of agriculture usage (wouldn't want a hog confinement to be developed within this area) to maintain a green area buffer, or to instead adopt strict regulations on development issues. For example, if a housing development should be developed, the development should continue the existing gridiron network of streets terminating upon North Street. This would not only protect Walnut's small town amenities, but enables them to sustain themselves strengthening Walnut's overall charm.

CHAPTER SEVEN - ANALYZING, COMPARISON AND RESULTS

In regards to the transportation models, the research question I have sought to address in this thesis is, "Have these models proved to be effective when analyzing and understanding small town's growth?" The simple answer to this question is, "yes." By overlaying the three transportation models over each of the small towns, a simple and reasonable framework was used to illustrate the influence a specific type of transportation investment had on the land use patterns within the small town. An understanding was then grasped on how future land uses may evolve, depending on future transportation investments. This framework can easily be used for any small town, or even cities for that matter, when trying to understand transportation policies and their effect on land use patterns.

Identifying each of the Three Communities on the Continuum.

Glenwood. As Glenwood continues to grow as a bedroom community, the city is increasingly becoming an exurb. Housing within Glenwood has skyrocketed within the last twenty years, and all of the housing are not being developed with respect to the existing layout of the town (nor income-wise). Glenwood is currently in between transformation of a small town and exurb for several reasons. First, Glenwood has a healthy and stimulating Town Square filled with local businesses. Second, the retail/commercial activities within Glenwood, primarily in the Town Square, are not only mix usage, but provides Glenwood's neighborhood a self-contained environment and atmosphere. Third, as a county seat Glenwood has a strong civic environment within the Town Square. This strengthens the local economy and social environment within the Town Square, and vice versa. But most

importantly, the main reason why Glenwood is becoming an exurb is because there are no large commercial/retail centers within or near Glenwood, such as a Home Depot, Office Max, HyVee, or WalMart. And usually these developments follow a large population surge, such as the one Glenwood is currently experiencing. However, this can be good. These commercial/retail centers not only threatens the local businesses found within the Town Square, but threatens the overall small town amenities of Glenwood. And all it takes are these large-scale developments to turn the key for suburbia. Glenwood has an opportunity to address these threats through the use of mitigation activities.

As far as the "Main Street" (Town Square), Glenwood's "Main Street" has actively been promoted and supported by the Chamber of Commerce. When comparing Glenwood's "Main Street" with the four points drawn up by the National Trust for Historic Preservation, Glenwood takes home the prize on Business Improvement, Design, and Promotion. The Chamber of Commerce has done an excellent job on the Business and Promotion aspect, while the city and public wholeheartedly supported the massive renovation of the streetscape. However, as far as resources and incentives encouraging building owners to conduct façade renovation, develop downtown housing, and to renovate old buildings - Glenwood, the Chamber, and/or the County has not implemented any of these resources or incentives.

Of the four points, Organization needs improvement. The Chamber is active in promoting Glenwood's "Main Street", however, the Chamber now needs to reach out and unify the Organization aspect. While browsing through the many stores, none of the store owners were receptive to me, the customer service was non-existent, half of the stores were closed (this is during the day), and last but not least, only one cared that I was doing a thesis on their small town. When I inquired about this, many people from the community

(including the store owner that cared I was doing a thesis), simply stated that Glenwood is full of "radicals" opposing change, and they want Glenwood to be "hidden" from the public. Overall, there is no consensus and cooperation found on "Main Street" between the public sector, private sector, and individual citizens.

Missouri Valley. Missouri Valley has had several obstacles to overcome in order to sustain its community. However, some of these obstacles cannot be dealt with, such as the railroad, Loess Hills, and the continuous threat of floods within the floodplains. Since friction has been applied every direction towards Missouri Valley, Missouri Valley has not been able to fully mature in various areas (commercial, retail, housing, industry, etc.). As a result of the lack of any transition, Missouri Valley still holds the status of a small town. Simply stated, until an abundance of housing, or a large retail/commercial development occurs – Missouri Valley will continue to remain a small town.

When analyzing Missouri Valley's "Main Street" up against the National Trust's Four Points, Missouri Valley is very strong in the Promotion and Business Improvement, but lacks in the Design area. However, as stated in the thesis, Missouri Valley has a federal designated highway running right down the middle of its "Main Street", and as a result, the city has not had the opportunity to address the design issues as much as they'd like. Furthermore, the city is extremely limited in its Promotion and Business Improvement capabilities, even as strong as they are. When researching why Missouri Valley was not bypassed earlier, the same answer was provided by several different sources - because all of the businesses along US Hwy 30 within Missouri Valley for the last twenty years stubbornly opposed any proposed bypass. Now Missouri Valley wants a bypass.

As a result of the private sector finally understanding the significance behind a genuine "Main Street" (that a bypass will not kill it, it will only nourish it), the Organization structure within Missouri Valley has improved greatly since the early 1980s. Even gas stations along US Hwy 30 wants a bypass. Once the bypass is built, the Chamber of Commerce will fully investigate the Design issue, and once the Design issue is implemented, Business Improvements and Promotion ought to follow in suit.

Currently, there are no programs, resources, or incentives to encourage development of traditional buildings (for infill purposes), renovation, rehabilitation, or housing along the "Main Street" of Missouri Valley. Once US Hwy 30 is bypassed, the City of Missouri Valley, the county, as well as the Chamber of Commerce should explore these resources.

Walnut. Walnut is unique since the "Main Street" does not provide economic activities for the small town. Because of this, Walnut went from being a small town in the 1970s to becoming an exurb in an indirect manner, due to the reverse shift in its economy. Until one or more self-contained economic activities occur within the "Main Street", such as a drug store or even a Casey's Gas Station (in the industrial area, of course), Walnut will remain an exurb. Currently, there is a bank, library, post office, and a couple of restaurants, but these activities do not support a self-contained community, and this is one of the main ingredients of a small town. Walnut has primarily become a bedroom community, in which the town itself has miraculously survived three decades of a terrible farm economy. But as stated previously, this actually helped Walnut by preserving its "Main Street" as one of the most aesthetically pleasing and historically accurate "Main Street" possible.

When analyzing Walnut's "Main Street" with the four points drawn up by the National Trust, Walnut's "Main Street" takes home the prize on the Design issue – Walnut's "Main Street" is original and pure. In fact, preservation programs are not necessarily even needed within the "Main Street" of Walnut. However, within the Business Improvement, Organization, and Promotion – Walnut's "Main Street" lacks significantly. While doing the interviews within Walnut, it was emphasized by several people how the Antique businesses making up "Main Street" are nothing more than "leeches." They were harshly criticized (quite heavily) that the only thing they're good for is "infill," to keep the storefronts full. The argument was made that the majority of Antique businesses do not live in town, hardly any sales tax is paid (they sell a lot of their stuff on the road), they won't contribute to any advertising (they claim that's the city's job), and last but not least, they won't contribute to any preservation efforts along the streetscape (once again, that's the city's job). In short, the impression I received was that the Antique businesses do not want to be bothered – they just want to sell their merchandise. Whether these accusations are true or not, it wouldn't be surprising. Walnut is a small bedroom community of 778 people, they do not have an authentic "Main Street" in terms of economics, and they do lack a Chamber of Commerce that would normally hold all the businesses within the town in line, and accounted for.

However, it must be noted that Walnut is extremely organized. After all, Walnut did die in the 1970s - and they did not miraculously arise from the dead. There were Organization, Promotion, and Business Improvements in the works. Getting an "Antique Drive" sign out along the Interstate took a tremendous amount of energy and coordination with the Department of Transportation. It took Walnut five years to net McDonalds, Amoco, and Kum and Go out along the Interstate. It also took the city an immense amount of

visioning, creativity, and unification to make Walnut the Antique Capital of Iowa. It just didn't happen overnight. And it is almost impossible for any community of 778 people to spontaneously mobilize and work together to strive on a vision (in which they did). The key is, can Walnut continue along the path and become self-contained – by becoming a "small town" again?

The Future of the Three Communities. As stated in Chapter One, my hypothesis outlined three factors ultimately determine a small town's transformation into a more urban form: recent transportation investments, types of land use policies adopted, and is overall accessibility in terms of transportation.

Glenwood. As Glenwood continues to grow in terms of population and size, the green space currently surrounding US Hwy 34 will increasingly be jeopardized. (It is actually amazing that this area has not yet been developed within the last twenty-five years). This green space is prime land for economic activities and future housing. Although there are currently no economic activities within the City of Glenwood (because of the proximity of Council Bluffs), it will no doubt soon come. Glenwood will ultimately become a satellite for economic trade for the rural areas of Mills County, Montgomery County, Fremont County, and even Page County. This is the time for the city to begin mitigation through proactive planning. Glenwood needs to either buy development rights to preserve the area as green space, or implement strict zoning, transportation, and land use measures to ensure the land will be developed in an efficient manner, both in accessibility and type of land use.

The City of Glenwood also needs to start working with Mills County in developing a countywide zoning for the unincorporated rural areas of Mills County. Mills County is one

of five counties in Iowa that does not practice zoning, as a result the careless developments within north of Glenwood will only continue.

In short, if Glenwood does not start proactively planning on how they would like to see their city grow, it will quickly transform into a corridor urban model community (along US Hwy 34), followed by the polycentric urban model (future developments would spin off of US Hwy 34 and US Hwy 275).

Missouri Valley. As stated earlier under the Missouri Valley analysis, a bypass is currently being planned south of Missouri Valley. This will be a tremendous asset for Missouri Valley, primarily for the welfare of the community. Currently, accidents within the area between I-29 and the built up portion of the city are three times the rural statewide rate. As a result, this area is extremely dangerous (even for automobiles).

The bypass will nourish the Central Business District, as well as the US Hwy 30 corridor, by relieving the population of the high-density traffic. Once the bypass diverts the semis, Missouri Valley's Central Business District, as well as the neighborhoods, ought to be able to strengthen themselves in a pedestrian and aesthetic manner. Furthermore, the bypass will provide a solid levy off of the Boyer River. This will allow the prospect of infill housing to occur between the bypass and the railroad tracks. As long as Missouri Valley respects the design issues in regards to proper treatment, there is no reason why future housing stock could not prosper between the tracks and the bypass (in the suburbs of Chicago, it is not uncommon to find McMansions along the many Interstates serving Chicago). If this is done successfully, Missouri Valley will continue to enjoy the monocentric model, even while encasing the I-29 interchange with business developments.

Walnut. Walnut will most likely continue serving as a bedroom community. However, just as US Hwy 34 traversing outside of Glenwood, Walnut's main corridor into the city (County Road M47) is sandwiched by green spaces. Walnut needs to proactively plan to ensure that future housing developments/business developments will tie into the existing gridiron network of streets, thus respecting the existing fabric of the city – giving it its extraordinary pedestrian environment. All it takes is one development to disrupt the current fabric, and then all of the future developments will be able to get by.

Just like Glenwood, Walnut should begin mitigation activities through proactive planning. Walnut should implement strict zoning, transportation, and land use measures to ensure that future development is developed with respect to the existing layout of the *altstadt* of Walnut. By doing this, the aesthetic of Walnut is not only being preserved, but multiplied. It probably wouldn't be a bad idea for Walnut to curb, sewer, gutter, sidewalk, and landscape both sides of M47 between North Street and I-80, to continue the established tree corridor "Antique Drive" found within the city limits. (Walnut could also do it piecemeal, or require that the developers implement the design when developing their projects). By doing this, Walnut can layout future entrances into future housing/business developments. This is extremely proactive, since the city would be "marking the spot" before developers would have a chance to impose their designs. Rather than the city adapting to the new development, the development would have to adapt to the city. Furthermore, the developers would most likely conform and work with the existing infrastructure since it would not only be extremely time consuming to fight the existing layout, but expensive to go around it as well. If this successfully works out, Walnut will only continue to expand their boundaries of the

monocentric model; if not – Walnut could very easily become a corridor urban model overnight. It only takes one development.

CHAPTER EIGHT - CONCLUSION

> Through the postwar decades Americans happily allowed their towns to be destroyed. They'd flock to Disneyland in Anaheim, or later Disney World in Florida, and walk down Main Street, and think, "gee, it feels so good here." Then they'd go back home and tear down half the old buildings downtown and pave them over for parking lots, throw a parade to celebrate the new K Mart opening – even when it put ten local merchants out of business – turn Elm Street into a six lane expressway, pass zoning laws that forbade corner drug stores in residential neighborhoods and setback rules that required every new business to locate on a one-acre lot until things became so spread out you *had* to drive everywhere. They'd build the new central school four miles out of town on a busy highway so that kids couldn't walk there. They'd do every fool thing possible to destroy good existing relationships between things in their towns, and put local economies at the mercy of distant corporations whose officers didn't care whether these towns lived or died.[222]

When the Model T first debuted in the early years of motoring, know one could have possibly known the destruction it would bring within a century, not just on our physical landscape, but in our environment and culture in general.[223] Over the years, automobile companies have continuously advertised their products as "tickets to freedom," especially venturing out into the countryside.[224] However, as David Korten writes in "When Corporations Rule the World" (1995),

> ...it is ironic, because the automobile has been the perhaps the greatest contributor to making our urban areas unlivable, turning our countryside into sprawling suburbs and strip malls, and making us ever more dependent on cars to survive the consequences of this affliction.[225]

When studying transportation data, different sources will always reveal different findings; however, in dealing with recent transportation trends, the results, whether liberal or conservative, always paint a similar in conclusion. In "When Corporations Rule the World" (1995) Korten writes that in 1950, the average American drove 2,356 miles. This has risen to 6,014 miles by 1990, an increase of 155%.[226] In analyzing transportation data provided by the Federal Highway Administration, the average American drove 3,000 miles in 1950, and

in 1990 this number climbed to 9,000 miles, producing an increase of 200%.[227] (See Appendix B for more Transportation Data).

At the turn of the century, a trolley ride costing a nickel could reach up to 48,000 jobs anywhere within the vicinity of Chicago. Today, unless a worker is lucky enough to live on a utopian transit route that serves his/her place of employment (which is hardly the case), a worker is forced to invest thousands of dollars in a car, drive endless miles through sprawl and congestion, consumes hundreds of gallons of gasoline, and generate dangerous levels of pollution and noise in order to even reach a fraction of that number.[228] It is no wonder than, that the three largest corporations in the United States are GM (automobiles), Exxon (oil), and Ford (automobiles).[229]

Evidence consistently illustrates the American preference for the single-family detached home, demonstrated through their consistence sacrificing of time in the car for the lifestyle.[230] Because of this, the government has continuously subsidized the consumer's wish by supporting large wasteful developments of repetitious tracts of low-density single family homes, all in the name of single-family homes. As this thesis has demonstrated, this is done at the expense of sustainable communities.[231] Instead of encouraging and developing new towns with mixed usage and pedestrian activities, which would have led to sustainable, energy efficient, and livable communities, suburbs were instead chosen.[232] Because suburbia has continuously been fueled for the last fifty years, Americans have been living a car-oriented lifestyle for so long, it has become "normal."[233] In fact, as time passes, the number of people who have actually experienced an authentic "Main Street" while growing up will continue to decrease in number. Pretty soon – it will be just a memory on film and paper.

Having chosen to subsidize suburbia over traditional small towns for such an indefinite amount of time will be a mistake that will plague and haunt America for decades to come.[234]

As this thesis has demonstrated, small towns wishing to sustain themselves need to focus on transportation and land use policies, and how these two alone can shape the desired growth.[235] While it may be true that the automobile is responsible for our auto dependent lifestyle, primarily by allowing our jobs and recreational activities move out to participate with our spacious living and shopping, it is the transportation policies that has made this directly inevitable. As new transportation models and land use patterns emerge, small towns need to be aware of how their small town first developed. When thinking of adopting new transportation policies, which can lead to new and conflicting land use patterns, small towns needs to actively think outside the box in understanding how the existing land use patterns could be affected if adopted.[236] Furthermore, transportation policies and investments need to complement small town's developments and goals. When transportation investments and policies steer off this path, uneven economic growth will occur, inevitably disrupting the sustainability of the small town.[237] When a small town understands transportation policies and investments, they can choose the right path in altering the land uses and accessibility in their favor, which will positively influence the desired growth the small town would like to see.[238]

Transportation investments will ultimately influence land use, population and employment; to make these changes positive within a small town the community needs to proactively plan.[239] When this is done, a community can identify which type of transportation investment it would like to implement in order to shape the land use and development, functionally and spatially, in its favor.[240] Until about 60 years ago, it was not

uncommon for small towns to adopt a map illustrating the future placement of streets and desired land use, such as schools, parks, and open spaces.[241] Today, the exact opposite occurs, the land use is developed first (with a capitalist approach), with the streets and intersections then conforming to the developed land use. Trails and open spaces might occur as a fill in, depending how much money is left over after the project (and these will be written off as aesthetic measures, not in practicality). Since citywide planning hardly takes place anymore, functions such as mail delivery, school buses, garbage pick-up, recycling vehicles have increasingly become expensive to operate due to the time and driving accessing the various parts of the town. It's almost as if these functions were completely forgotten during the planning stages, and then afterwards everyone said "Ooops." In short, because of zoning, none of the streets connect.[242] This is very time consuming and energy inefficient.

The Last Word on "Main Street"

Fifty-five percent of all Americans live in a suburb, yet only twenty-five percent of the suburbanites will mention the suburbs as being their home.[243] Who can blame them? The suburbs are boring privatized pods of housing with little sense of community or civic culture. Many suburbs lack an identifiable downtown or public meeting place. Furthermore, functions that used to spontaneously take place on a "Main Street" have become sterile by being replaced in a regional shopping mall, or a high school gymnasium.[244]

After being surrounded so long by overstructured, formulaic, and prefabricated places, residents of suburbia have been voicing out their complaints long enough to the point where suburbs are now themselves attempting to build a "Main Street" to sustain

themselves.[245] Many parents are stressing how they would like to see their children grow up in a real community, perhaps the kind of community where a Fourth of July parade makes sense, not in a community known by its highway exit.[246] Furthermore, people are beginning to stress over how time consuming and inefficient driving to multiple places are, after all "crawling past an endless array of fast food joints, strip malls, big box complexes, gas stations, and muffler shops listening to a "shock jock" scream on the radio is surely the worst way to waste time."[247] Going through this on a daily basis only helps reinforce the idea that mix use development only makes sense. How could it not? However, the problem today is most jobs are either still located in the cities or are now in the suburbs (corporate parks), and despite the telecommunication freedom the future promises, many people will continue to be stuck in the suburbs, whether they like it or not.[248] As a result, suburbs are now competing among each other for sustainability purposes, by reinventing themselves with a small town atmosphere. Even suburbs are beginning to sweat, since our society is mobile due to the automobile, suburbs are now being threatened by exurbia. So as a result, from a function to a place, these suburbs are even going so far to outfit themselves with a "Main Street".[249] However, while suburbs are grasping to understand the concept in developing a "Main Street", they are quickly discovering "Main Street" is not at all easy to recreate, its extremely expensive, labor intensive, and time consuming. "Main Street" in rural America was developed over many years, in most cases, over a hundred years. But most importantly, the reason why "Main Street" is "Main Street" is because it was spontaneously developed on a local and vernacular mean.[250] In the case of suburbs wishing to develop a model "Main Street" overnight, the land needs to be acquired, which can take years and many bond passages. "Main Street" within a small town is full of diverse and local buildings constructed

over generations, filled with local businesses, which gives them the real one-of-a-kind place people appreciate when observing, feeling, and smelling a traditional "Main Street", in other words, real places operated by real people. A developed "Main Street" or even a shopping mall can't achieve this (with the exception of Disney).[251] And if a "Main Street" is developed in suburbia, it is most likely developed with outside money and corporate franchises disguised as local places.

The key of course is to create a sense of community for the people – by giving them a better streetscape to stroll along, making it more dense on a pedestrian scale, and to create opportunities for social interaction.[252] A strip mall or developed "Main Street" does none of these. To be realistic, given a choice between a local coffee shop found on a "Main Street" versus a Starbucks in a strip mall, a suburbanite would no doubt pick the latter, in fact, they would even be willing to fight the traffic. But the local coffee shop found on "Main Street" is what gives the "Main Street" its aura. But most importantly, the reason why a "Main Street" community has a strong "Main Street" is because of the pride and dedication that has gone into the "Main Street over the years. A suburb from day one has had to consign a majority of the available public works budget to focus on the automobile needs, in the form of continuously updating the transportation infrastructure.[253] A small town, on the other hand, has been able to focus their public works budget on other areas besides transportation issues, such as social resources: the community pool, library, municipal band, cultural events, parks, boulevards, and streetscapes.[254]

Because of this, the three communities in Iowa have remarkable opportunities ahead of them. Each "Main Street" found within these three communities (as well as the State of Iowa), are not only developed, but are full of character and rich in architecture, contains a

wealth of local businesses (as well as government offices), and last but not least –a *sense of community*. The *sense of community* is what Americans are yearning for today, and this is already here in the "Main Street" communities across the rural sector (and it is completely priceless). Even gated communities can't achieve this as much as they try. This is not something that cannot be created overnight. However, these things can easily disappear, and once they're gone they're gone. The three cities studied in this Thesis will have opportunities due to two factors. One is the metropolitan expansion of Omaha/Council Bluffs. Omaha will swell up to 900,000 people by the year 2050, and these 900,000 people will not all want to live in the metropolitan area of Omaha. Because the future of telecommunications will increase freedom, people will have more of a choice in where to live. Second, as this thesis has stated from the very beginning, people want to live in a community that has a sense of place, not a suburbia pod.

End Notes

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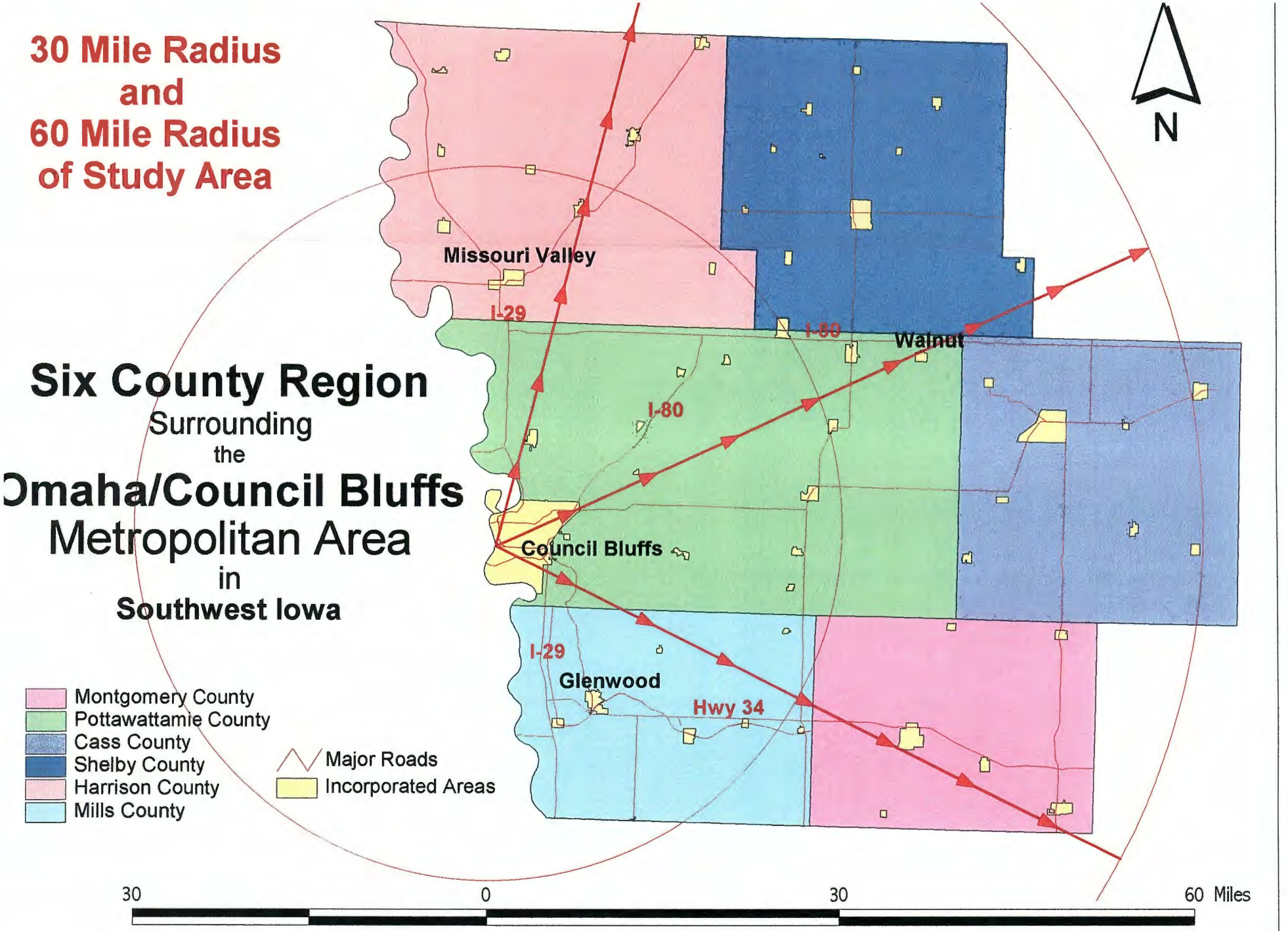
APPENDIX A

30 MILE RADIUS AND 60 MILE RADIUS OF STUDY AREA


30 Mile Radius
and
60 Mile Radius
of Study Area
N
Missouri Valley
I-29
I-80
Walnut
I-80
Council Bluffs
I-29
Glenwood
Hwy 34
Six County Region
Surrounding
the
Omaha/Council Bluffs
Metropolitan Area
in
Southwest Iowa
Montgomery County
Pottawattamie County
Cass County
Shelby County
Harrison County
Mills County
Major Roads
Incorporated Areas
30
0
30
60 Miles

APPENDIX B

MAIN STREET PHOTOS

Photos illustrating a "Main Street".

Photos of Main Street in Geneseo, Illinois, to help illustrate a typical "Main Street" as outlined in the continuum.

1. Photo 1. Façade Layout.
2. Photo 2. Street and Sidewalk Layout.
3. Photo 3. Intersection.

Photo One. Façade Layout.

This "Main Street" is located within northwestern Illinois, right off of I-80. The Main Street is three blocks long, compact, easily accessible for both autos and pedestrians, and full of mix usage activities. The facade on each building respect the other facades found along "Main Street" in terms of window and building mass, and are uniformed as well.

Photo Two. Street and Sidewalk Layout.

Along each side of "Main Street" are four corridors: the sidewalk, boulevard, parked cars, and the street itself. This human scale layout allows the "Main Street" to be utilized by both automobiles and pedestrians. The facades abutting the sidewalk, the boulevards with trees, and the parked cars themselves offer a protective barrier, giving pedestrians the psychological feeling of enclosure. The parked cars also forces "Main Street" traffic to slow down. These mechanisms offer a safe public framework, enabling not only social interaction to occur freely, but healthy economical activities as well.

Photo Three. Intersection.

Honorific locations are reserved for churches or civic uses throughout "Main Street" and the community, such as an intersection, beside a park, or at the termination of street vistas. In Geneseo, the City Hall enjoys the occupation along the main intersection of "Main Street". This not only satisfies the small town's ideology (by being able to walk to the City Hall from the surrounding neighborhoods – primarily senior citizens and children), but is aesthetically pleasing as well – giving the "Main Street" an unique identity.

APPENDIX C

AERIAL PHOTOS ILLUSTRATING THE CONTINUUM: SMALL TOWN, EXURBIA, AND SUBURBIA

Aerial Photos Illustrating the Continuum: Small Town, Exurbia, and Suburbia.

The following aerial photos will outline the three studied areas:

1. Street Design and Layout
2. "Main Street"
3. Social Welfare

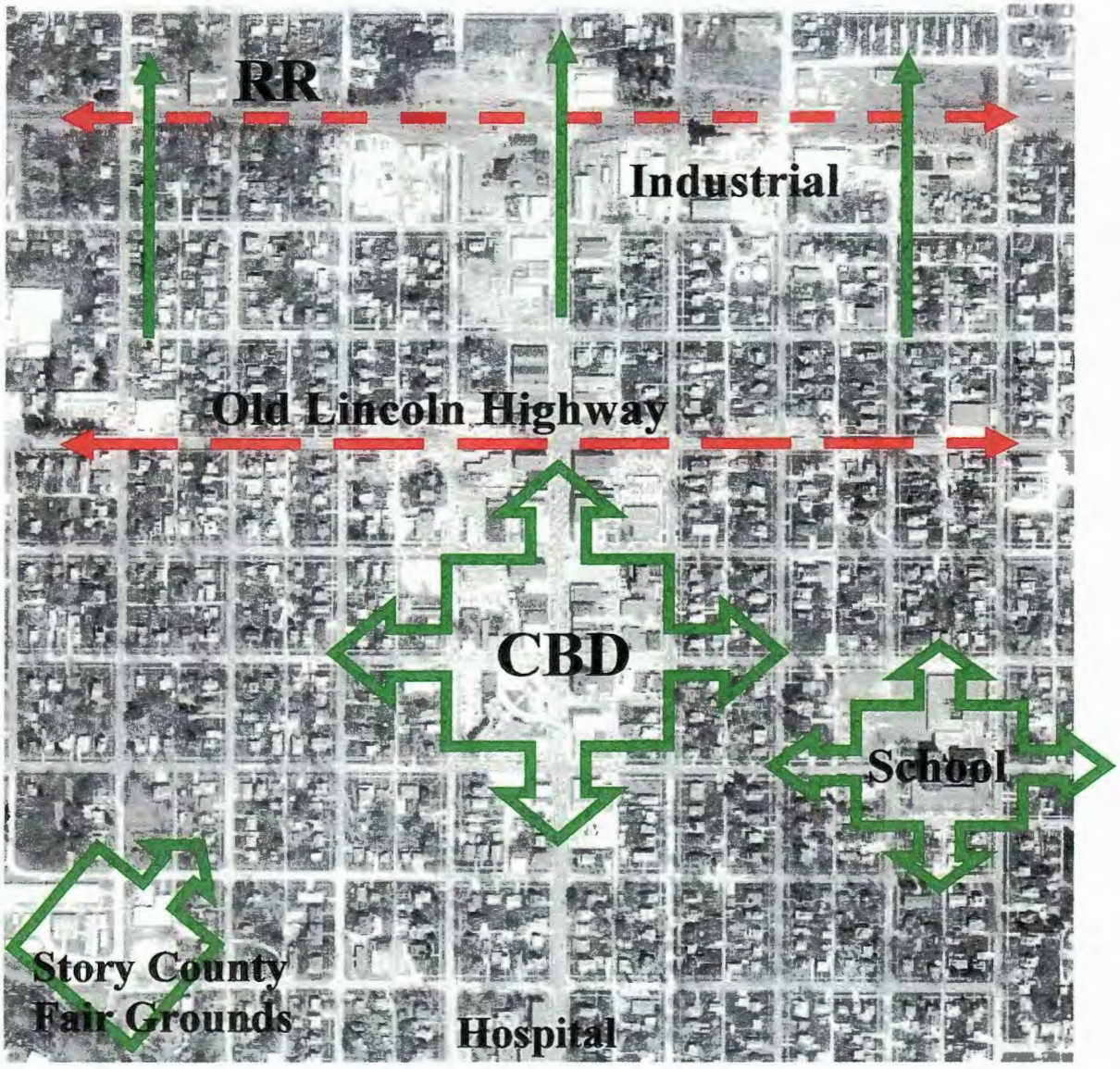
Table of Contents:

The aerial photos were downloaded off of the "Iowa State University Geographic Information Systems Support and Research Facility" website: http://www.gis.iastate.edu/homepage.html.

The aerial photos are dated within the late 1990s.

Plate One (A). Nevada, Iowa. Central Business District.

Plate One (B). Nevada, Iowa. Central Business District.



As a county seat for Story County, Nevada's population for the year 2000 was listed at 6,658, a 99% increase in population from 1940, when the population for the city was listed at 3,353. Platted as a railroad community, the City of Nevada actively developed along the formerly known Chicago & Northwestern railroad tracks (now Union Pacific). Running parallel three blocks south of the railroad tracks is the old US Hwy 30 (also known as Lincoln Highway). In looking at the aerial photo, Nevada's Central Business District clearly illustrates the traditional "T" abutment with the tracks and the old highway, forming a 90° junction. Also illustrated in the aerial photo is the perfectly engineered gridiron network of streets making up the city. Besides noticing the streets dominate the aerial photo, it is hard not to notice how "Main Street" is completely encased by the gridiron network of streets, thus making "Main Street" a high density core for the city. Also found respectively encased

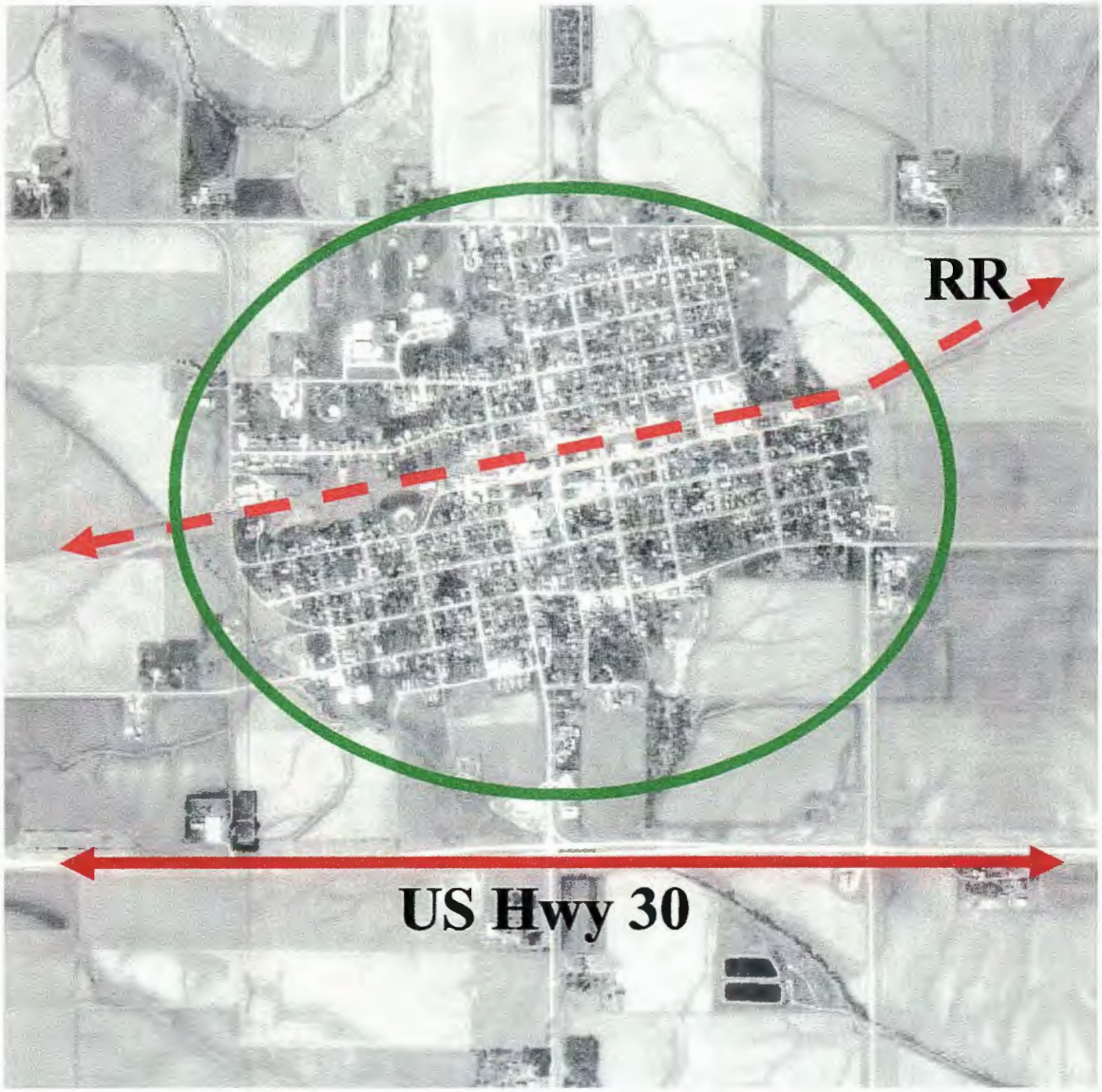
within the network of gridiron streets are an elementary school, hospital, and the Story County Fairground. These three destinations, as well as the Central Business District, are completely accessible for pedestrians within the neighborhoods, as well as automobiles from other parts of the community and outside of the community. Both groups can use the streets respectively.

The "Main Street" of Nevada actually begins at the intersection of Lincoln Highway. From Lincoln Highway, the "Main Street" proceeds three blocks away from the railroad tracks. This was quite common in most railroad communities since the land immediately adjacent to the railroad tracks were reserved for industrial uses. Along the railroad tracks in Nevada are a lumberyard, implement dealership, several garages, and other small businesses. In the early years when industrial employment was predominantly located within these areas of the community, the employment centers were easily accessible by the neighborhoods for labor pool reasons - the employees had to walk to work. However, this provided an enormous hidden and indirect benefit for the community as a whole. During lunch (and even after work), employees could easily stroll down to "Main Street" to socialize and do trade. Employees could meet for lunch, dinner, or they could individually run errands, shop, or just relax. Today within Nevada's "Main Street", establishments of mix usage still currently exists: a library, post office, movie theater, insurance offices, taverns, several banks, a grocery store, drug store, five and dime store, etc. Furthermore, there are an abundance of different types of rental apartments and houses within the Central Business District, as well as surrounding the district (income wise).

The neighborhoods tying into Nevada's Central Business District offers every benefit of employing a gridiron street layout. The neighborhoods provide an interesting landscape, destinations, and social opportunities. Most of the houses lining the streets have sidewalks, inviting front yards, porches, and alleys. Last but not least, not only does the gridiron network of streets diffuse traffic throughout the community, it impedes traffic from reckless driving by use of parked cars, tree plantings in the boulevards, and employing a continuous array of stop signs at every other intersection. All of these elements constitutes and stimulates a healthy social environment. Children can walk to friend's houses. Senior citizens and families can walk to church. Young couples can bike around the town. Both adults as well as children can walk to "Main Street" to either buy a gallon of milk or a hammer. Not only are these activities healthy, they all offer an endless array of social opportunities. However, the bottom line is more people on foot mean fewer cars on the road.

Plate Two (A). State Center. Complete Town Layout.

Plate Two (B). State Center. Complete Town Layout.



Just like Nevada, State Center is also located along the formerly known Chicago & Northwestern railroad tracks, and Lincoln Hwy. State Center is located approximately 26 miles east of Ames, Iowa (Interstate 35). With a population of 1,349 (2000), State Center's population has grown only by 316 people since 1940. However, since US Hwy 30 bypasses a mile south of State Center, there are a lot of prospective housing growth opportunities.

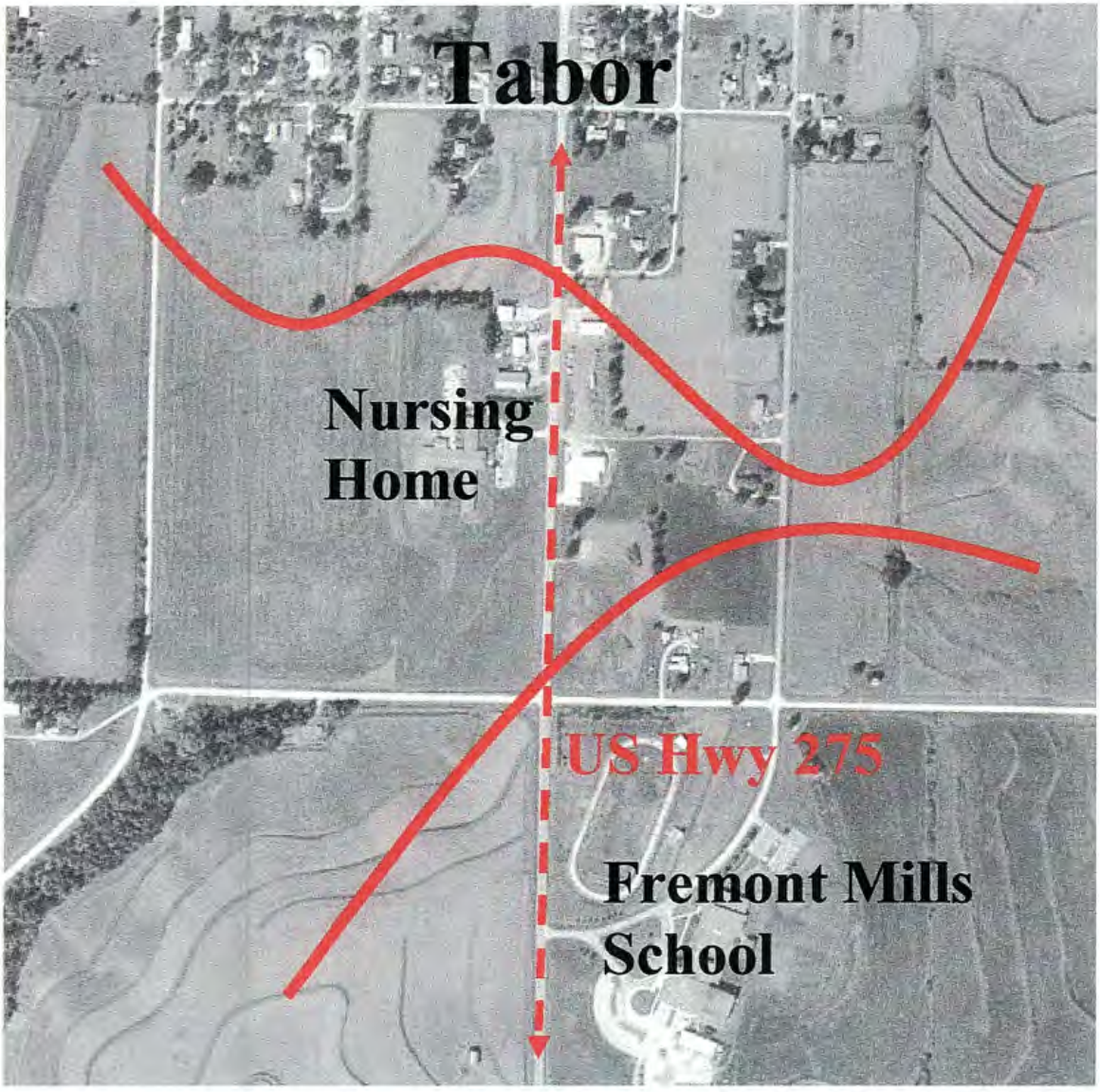
The green oval encases the traditional layout of the City of State Center. When studying the original layout of State Center, it becomes clear that the platter used the railroad tracks as a guide to establish and sustain the direction of the gridiron network of streets. This is not surprising at all since not only were the railroads largely responsible for the influx of emigration (the white settlers) into Iowa in the late 1800s, but the railroads also oversaw the platting of small towns along it's path. Nevertheless, this aerial photo provides the viewer

with a brilliant model of small town design before WWII. State Center has pretty much remained intact from post WWII "growth," most likely because of the slow population growth its population has experienced over the last 60 years.

To date, a car wash, motorcycle shop, and a gas station has opened up along the US Hwy 30 bypass south of State Center. Since these activities are auto oriented, they belong out along the highway. Within the "Main Street" itself of State Center, a post office, grocery store, elementary school, a café, and several other small businesses can be found.

Plate Three (A). Tabor, Iowa. South End of Town, Fremont Mills School.

Plate Three (B). Tabor, Iowa. South End of Town, Fremont Mills School.



The City of Tabor is located approximately nine miles south of US Hwy 34 in southwest Iowa. Tabor is unique in that it straddles the county line of Fremont and Mills County. US Hwy 275, serving as the "Main Street" corridor for Tabor, divides Tabor evenly right down the middle (facilitating as the major north to south arterial and collector road). The population of Tabor has increased very little since 1940, in the year 2000 Tabor's population was listed at 993, an increase of 17 people since 1940.

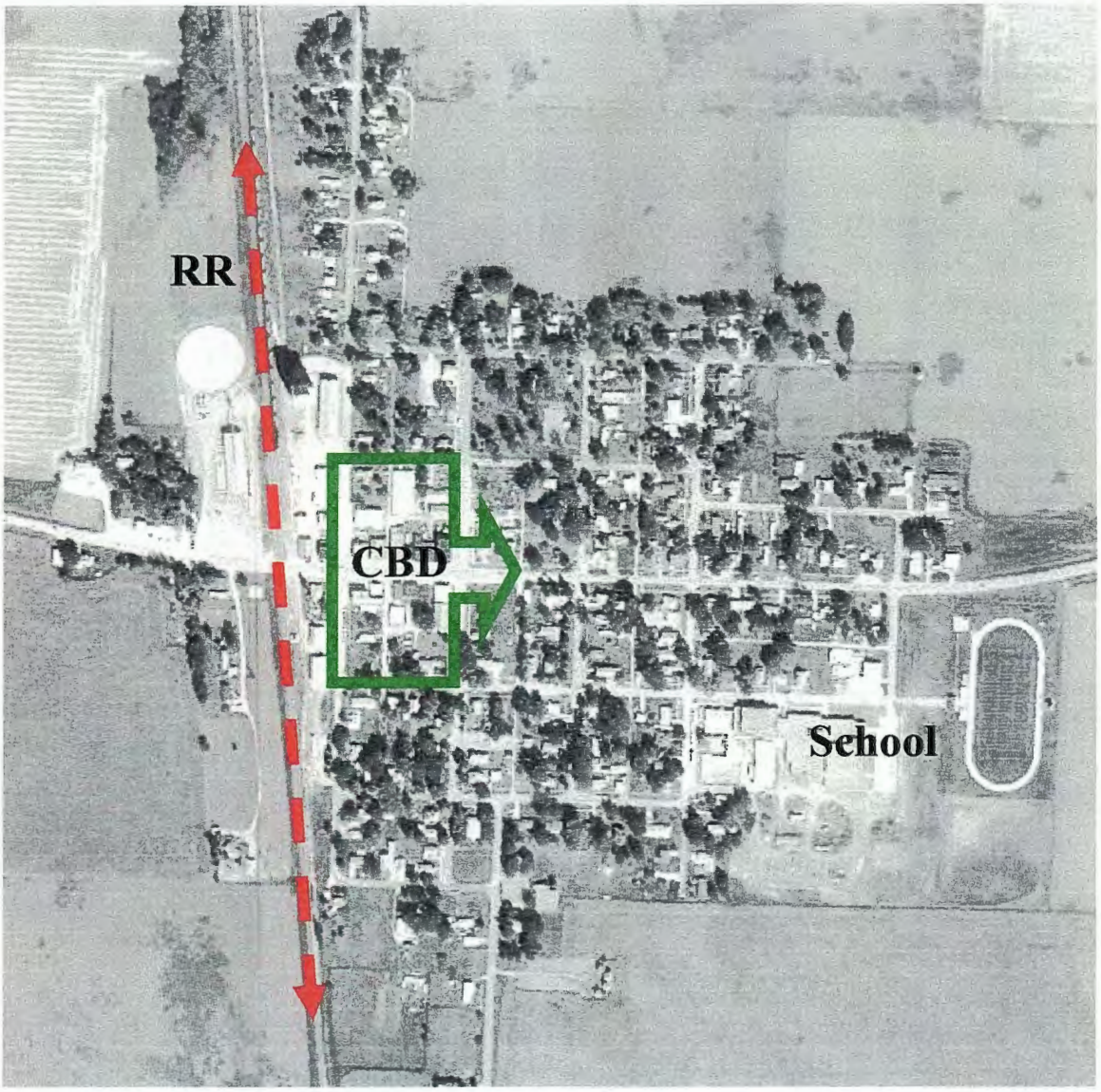
Within a mile south of Tabor, the Fremont-Mills Middle and High School and a Nursing Home has been developed along US Hwy 275. By being located outside the built up portion of the city along a federally designated highway, both destinations are *only* reachable by an automobile. Any attempt to walk or ride a bike to either one of these locations is very dangerous, and wrong. This is extremely ironic since neither of these two groups of

population can drive. As a result, the two age groups are deeply constrained, physically as well as socially. Senior citizens in the nursing home ought to be able to live out their days having an opportunity to socialize or stroll along a "Main Street" and it's neighborhoods. And children ought to have an opportunity to walk or ride their bikes to school. What's worse is that on a Friday night, the entire town of 993 people have to drive to the high school football game. This is embarrassing.

Tabor can be attributed as an exurb. There are few cars on the road (except before and after school), there is not one street signal throughout town, there are no traffic jams, and although US Hwy 275 is a federal designated highway, it is not engineered for future growth within and outside of Tabor (there are no turning lanes for cars entering or leaving Fremont-Mills Middle and High School). Furthermore, sprawl and uncontrolled growth can easily develop outside of Tabor (Mills County has no zoning and the school is outside of city's limits), US Hwy 275 becomes a prime candidate in becoming a "congested" collector road for Tabor and it's growth.

Plate Four (A). Mondamin, Iowa. Complete Town Layout.

Plate Four (B). Mondamin, Iowa. Complete Town Layout.



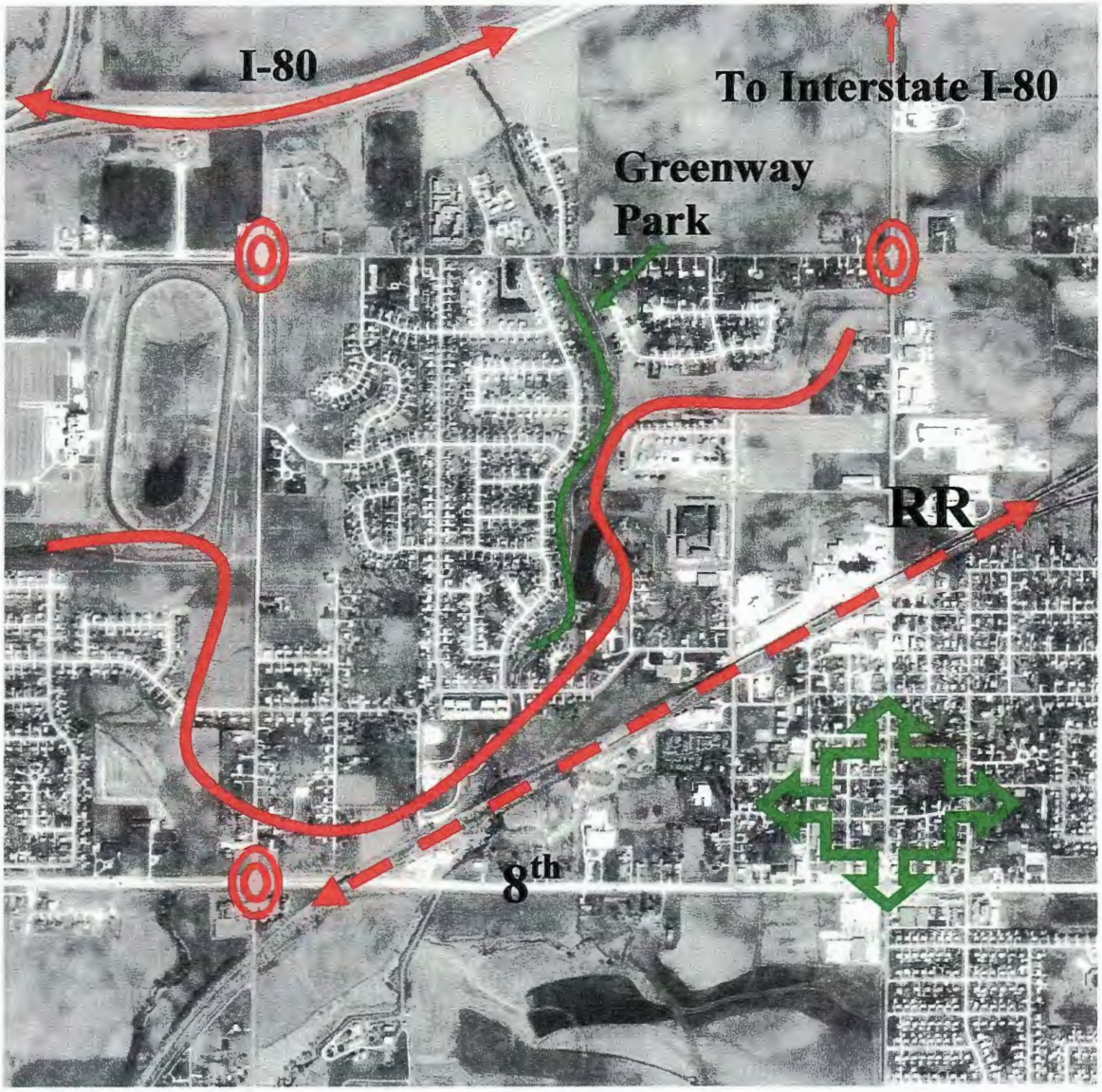
The City of Mondamin is located in Harrison County, approximately one mile east of I-29 (north of Missouri Valley). With a population of 423 people in 2000, Mondamin sits between the City of Little Sioux to the north, and the City of Modale to the south. Since the City of Mondamin is sandwiched by these two cities, Mondamin became the recipient of the Western Harrison Community School (all three community schools were consolidated into one school).

In analyzing the above aerial photo, the school can be seen on the immediate edge of the traditional gridiron network of streets. As a result, the children in Mondamin can walk to and from school, as well as home for lunches. Furthermore, the neighborhood kids (and parents) can use the school's playgrounds (and facilities) after school, on the weekends, and during the summer time. Baseball, soccer, football, volleyball leagues can be formed within

the community in an innocent and/or spontaneous manner. As a result, the playgrounds are not dead zones throughout most of the day and on the weekends, instead they can be well-utilized seven days a week, all hours of the day.

Plate Five (A). Altoona, Iowa. Sprawl within the West Side of Town.

Plate Five (B). Altoona, Iowa. Sprawl within the West Side of Town.



As a protégé of sprawl, Altoona easily illustrates all of the negative attributes associated with suburbia and exurbia growth. As a small farm community, Altoona's growth have occurred very rapidly, almost fair to say blindly and out of control. Consider the statistics: in the early 1900s the population of Altoona was recorded at 328 people. In 2000 the population was listed at 10,345 people, a 3,054% increase in population over a matter of hundred years, or ten decades. Between 1950 to 1980 the population of Altoona practically doubled as each decade came to a close. In 1950 the population was listed at 763, in 1960 the population was listed at 1,458. In 1970 the population almost doubled, reaching up to 2,883 people. In 1980 the population was listed at 5,764 people, just shy of two people of a perfect double from the 1970's census count. Overall, between 1950 to 1980, the population

increased by 655%. Between 1980 and 2000, the population increased 79%. When analyzing the Post WWII era, between 1940 and 2000, the population increased 1,516%.

In looking at the aerial photo of Altoona, two very different street layouts emerge. South of the railroad tracks is the *altstadt* of Altoona, made up of the traditional gridiron network of streets. North of the railroad tracks is the *suburb* of Altoona, neighborhoods made up of warped and curvilinear streets, filled in occasionally with a cul-de-sac or two (strategically placed to fill in void spaces). Running in a east to west direction underneath the gridiron network of streets within the *altstadt* of Altoona is 8th Street. Over the years 8th Street has been developed with retail and commercial activities, making it a heavily traveled corridor within the city. 8th Street is also only one of three routes currently available for the entire *suburb* of Altoona, in reaching the businesses and services along 8th Street (south of the railroad track). For 8th Street leading west (towards Des Moines), all of the traffic from both the "suburb" and "altstadt" of Altoona must squeeze onto the four lane road, making this road highly congested and dangerous.

When comparing the *suburb* with the *altstadt*, a sharp contrast between the two is clearly illustrated. The warped and curvilinear network of streets allows a separate community to form within an established community: segregating the economic, physical, and social welfare of the community. When critiquing any suburb the first thing outlined is the lack of destinations. The reason is simple - suburbs are isolated, only reachable by a car. This *suburb* in Altoona supports the critique very well. There are no destinations and no sidewalks, but - there are trails. But where do the trails go? Certainly not into town or to a school.

The entire neighborhood is separated from the rest of Altoona with the assistance of the railroad tracks (and this makes you wonder if there are actually anyone within this part of town who would honestly believe that the railroad tracks provide security since it "walls" off the rest of Altoona). Because of the limited access roads to the development, and the way the roads are engineered within the development, safety and congestion are continuously a problem. The development is nothing but a "sea" of monotonous and homogeneous houses, very boring architecturally wise. There are also no mix usage found within the suburb (no Laundromats, daycare, corner stores, etc.), this further creates not only a boring "land use," but an impracticable "land use" as well since each resident has to *drive everywhere for anything and everything*. Furthermore, by not having an array of architectural styles, and mix usage activities, it becomes quite difficult when giving directions or looking for an address. Straight to the point, the children are the losers in this neighborhood.

However, there is good news. A park was established east of the development, entitled "Greenway Park." Most likely this park was designed exquisitely with leftover land, probably nothing more than a picturesque drainage ditch lined with the trails stemming from inside the suburb. Either way, this park is not necessarily accessible by the public anyway, since it is not only located within this part of town, but located behind private houses (and remember, the whole idea of a suburb is to keep people away from your house).

Plate Six (A). West Des Moines, Iowa. Neighborhoods.

Plate Six (B). West Des Moines, Iowa. Neighborhoods.

Narrowing down specifically to a suburbia street layout itself, this aerial photo illustrates a classic suburbia neighborhood designed specifically to keep outsiders from entering the neighborhood – satisfying suburbia's ideology of safety and privacy. Unless you know where you are going within this neighborhood, it is very easy to get lost. It is also very hard to find an address, as well as giving an address (imagine being a pizza delivery guy). There are no designated "public" parks, no destinations within the neighborhood, and no connections to the outside world.

To strengthen the overall goal of privacy for the suburb, the streets are purposely engineered to be warped, curvilinear, and to consists of cul-de-sacs; all of these assists in creating disorientation. This makes walking the dog within the neighborhood long and boring. This also creates an obstacle for children – the only possible way to reach a friend's

house across town (or even the neighborhood) is to be driven, meaning the children are dependent on their parent's schedules (and/or wishes). In short – pedestrian activities have been traded off for privacy, and this means practically a complete loss of a spontaneous social environment.

The two "bull's eyes" are areas where traffic bottles up during peak travel times, predominantly before and after work. All of the automobiles either entering or leaving the neighborhood will ultimately concentrate within these two nodes, thus designating them as dangerous intersections.

APPENDIX D

CENSUS DATA WITHIN SOUTHWEST IOWA & TRANSPORTATION DATA WITHIN THE UNITED STATES

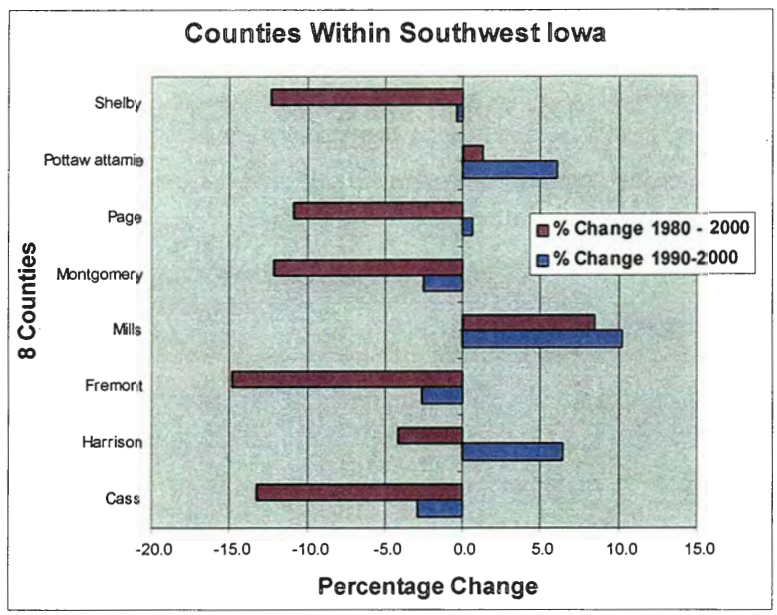
Census Data within Southwest Iowa & **Transportation Data** within the United States.

The following **Charts** and **Graphs** illustrates recent population and transportation trends.

Source for all Census Data: **US Census, 1990 & 2000.**

Source for all Transportation Data: **Federal Highway Administration**, unless otherwise noted. (http://www.fhwa.dot.gov/)

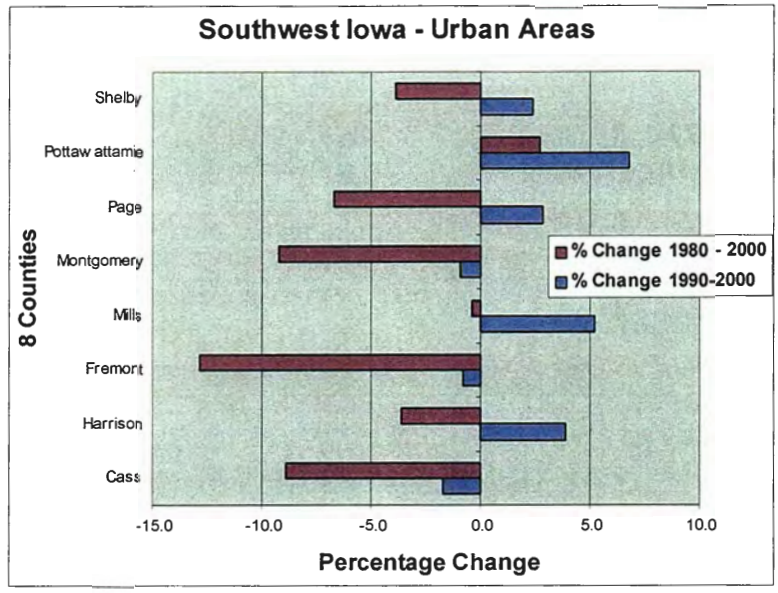
Figure 10. Percentage Change of the Population in Southwest Iowa; surrounding the Omaha/Council Bluffs Metropolitan Area. Source: US Census.



Of the eight counties surrounding the Omaha/Council Bluffs Metropolitan Area, only half of the counties experienced population growth between 1990 and 2000. The counties experiencing the growth during this time were Page, Harrison, Pottawattamie, and Mills. However, while looking at the overall population growth within the last twenty years (1980-2000), only three of these four counties experienced population growth: Harrison, Pottawattamie, and Mills.

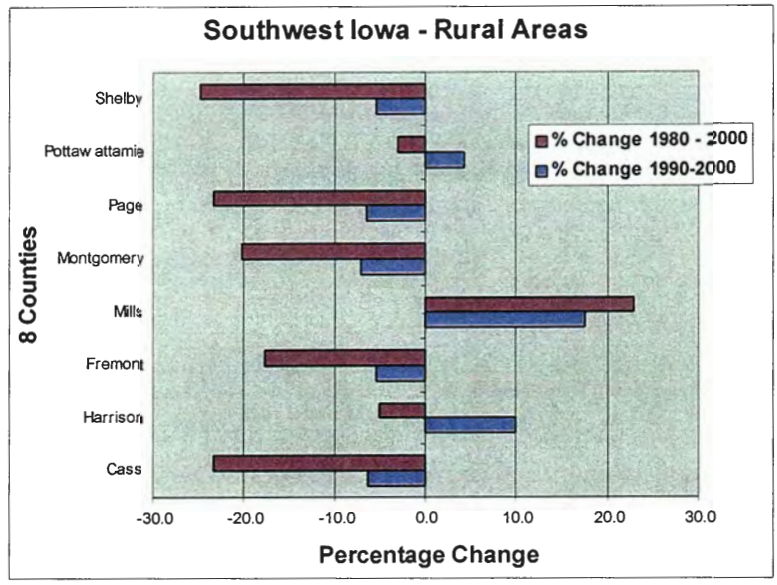
Of the four counties that experienced population growth between 1990 and 2000, Mills County took the lead, growing at 10.2%, Harrison County followed at 6.4, and then Pottawattamie 6.1. Page held the minimal growth of the four counties, .6%.

Figure 11. Percentage Change of the Urban Areas in Southwest Iowa. Source: US Census.



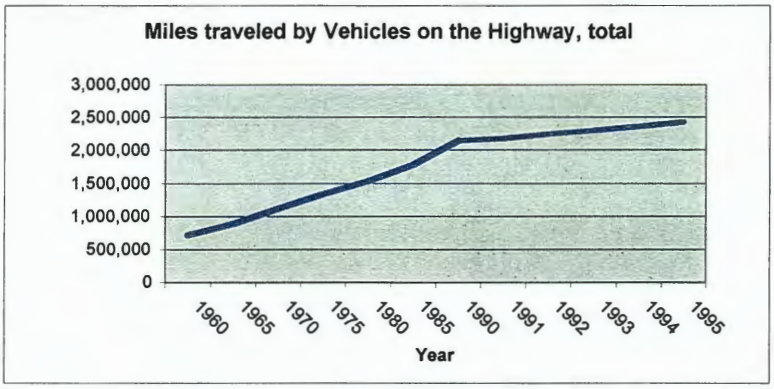
In analyzing the population growth of the urban areas, only one county experienced population growth between 1980-2000, Pottawattamie (2.7%). However, between 1990-2000 five counties experienced population growth; they are: Pottawattamie, Mills, Harrison, Shelby, and Page. The counties gaining population growth between 1990-2000 were led by Pottawattamie County at 6.8%, followed by Mills at 5.2%, and Harrison at 3.9%. Shelby County held the minimal growth, at 2.4%

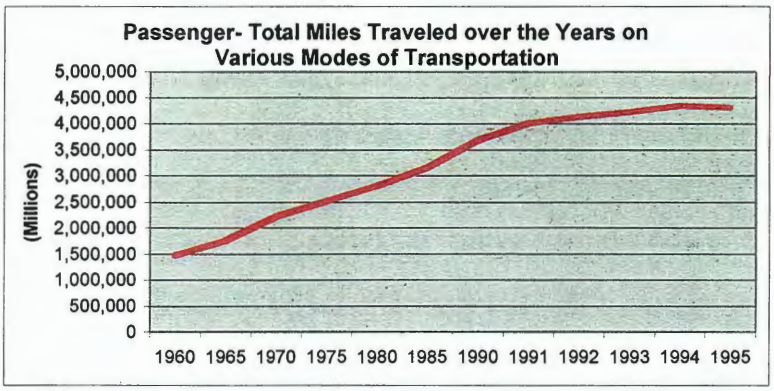
Figure 12. Percentage Change of the Rural Areas in Southwest Iowa. Source: US Census.

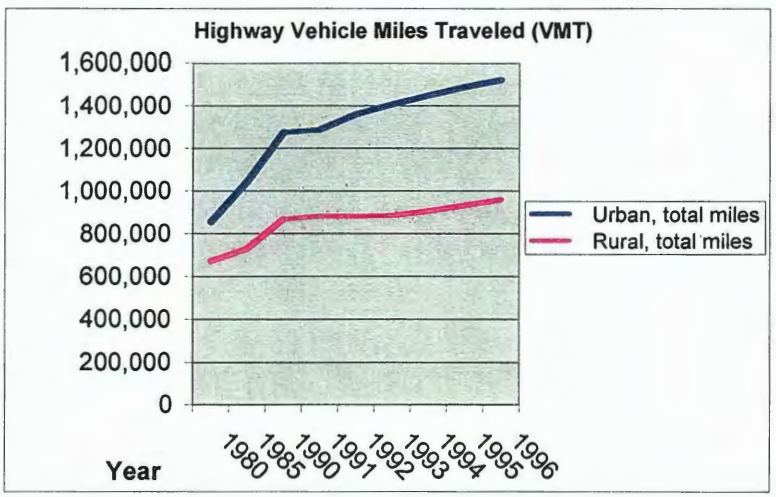


When analyzing the rural areas, Mills County was the only county between 1980-2000 to experience a population growth, a remarkable 22.9%. However, between 1990-2000, both Pottawattamie and Harrison County joined Mills County in experiencing population growth. Mills County enjoyed a percentage change of 17.5%, while Harrison County followed at 9.9%. Pottawattamie County held the minimal percentage change, at 4.2%.

Figure 13 (A, B, & C). Miles traveled by vehicles on the US Highways, total passenger miles over the years on various modes of transportation, and highway vehicle miles over the years between urban and rural areas of the United States.







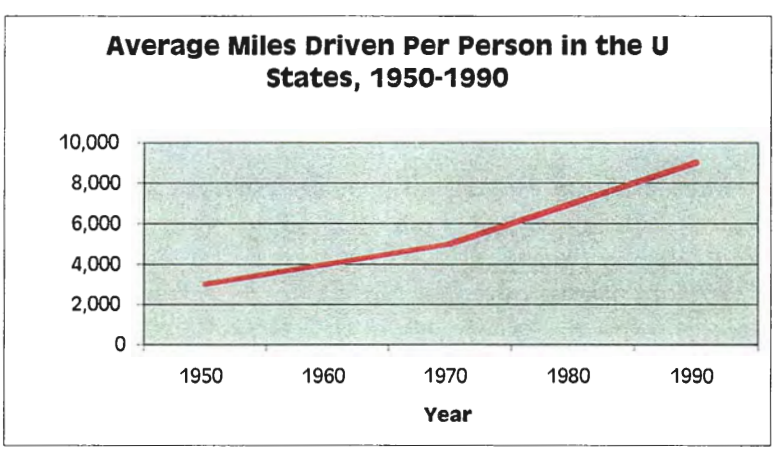
In Figure 13 (A), the miles traveled by vehicles on the US Highway were listed at 888 billion. In 1995, the mileage jumped to 2.423 trillion, a 173% increase. In looking at Figure 20, the total number of registered vehicles increased by 117% between 1960 and 1996. By comparing the number of registered vehicles with the highway mileage

increase, the data suggests the higher mileage over the years is not due to more vehicles being added to the road. Instead, Americans are making more trips in their cars. This could also point to Americans needing to drive farther out to conduct daily or weekly activities and/or parents trading time behind the wheel commuting to and from work. In Figure 14, the average miles driven by an American in 1950 was recorded at 3,000. This number climbed to 9,000 miles in 1990, producing an increase of 200% over a period of 40 years.

Figure 13 (B) illustrates how the average American has become increasingly mobile over the years on various modes of transportation (air, mass transit, highway, and rail combined). The average American logged 1.5 billion miles on the combined various modes of transportation in 1960. In 1990, this climbed to 4.3 billion miles, an increase of 192%. In Figure 15, passenger miles on various modes of transportation have been divided up into four categories. In 1960, an average of 1.4 billion highway miles were being logged by the average passenger, in air the average mileage was being logged at 33 million. In 1996, highway mileage by the average passenger increased by 179% (at 4 billion); however, air mileage increased by 1,233% (at 445,200 million).

Figure 13 (C) separates the highway vehicles miles into rural and urban categories. Both categories have increased in mileage, however, mileage on the urban highways have increased 75% more than the mileage occurring on rural highways. This suggests the highways stemming from urban core areas are either extremely high in density with commuter vehicles (suburbs), or development is occurring at an unusually high rate along the urban fringes easily reachable by highway (shopping malls, free standing housing developments, etc.).

Figure 14. Average miles driven per person in the United States, 1950-1990.



In 1950, the average miles driven per person in the United States was listed at 3,000; in 1990 this number climbed to 9,000, a 200% increase.

Figure 15. Passenger miles on various modes of transportation, 1960-1996.

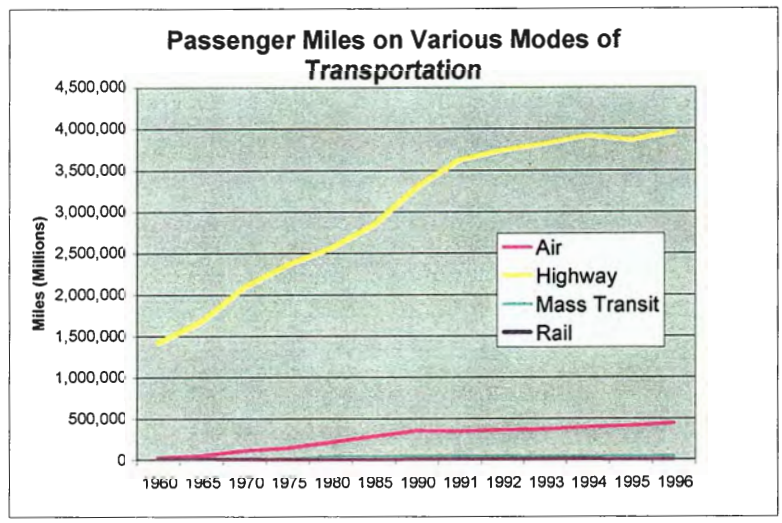


Figure 15 divides the various modes of transportation based on passenger miles: Air, Highway, Mass Transit, and Rail. In 1960, the average passenger miles spent on highways were 1.4 billion. In air, the average passenger miles spent in 1960 were 33 million. In 1996, air mileage enjoyed an increase of 1,233% (445.2 million miles), while highway mileage increased by 179% (3.9 billion miles). The high air mileage in 1996 suggests Americans are not only flying more than the Americans did in 1960, but that Americans today can prefer to fly rather then drive when given an opportunity to choose. See Figure 16.

Figure 16 (A & B). Percentages of various modes of transportation (air, highway, rail, mass transit), in 1960 and 1996.

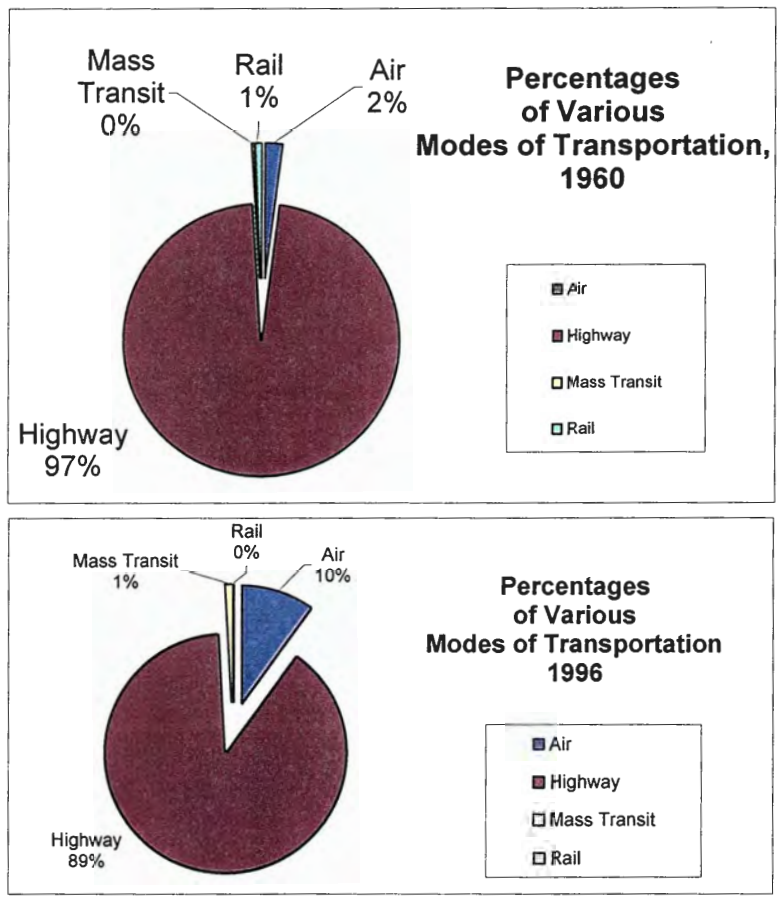
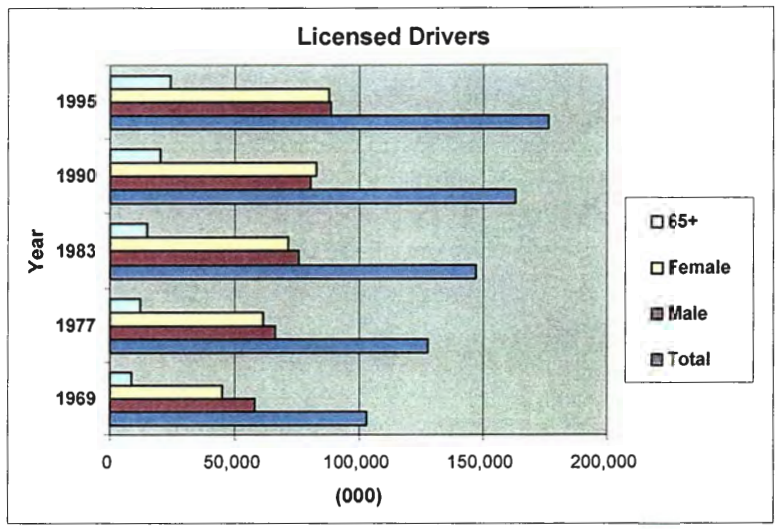
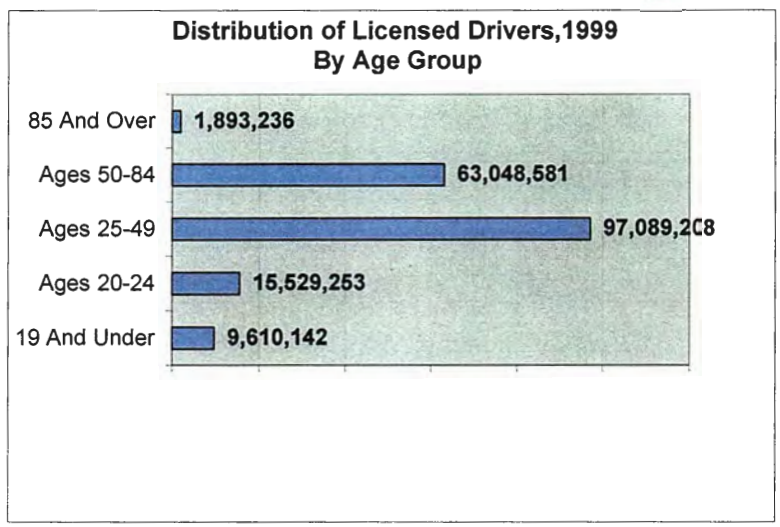


Figure 16 provides two pie charts (1960 and 1996) where each pie illustrates the percentage of various modes of transportation for the given year. In 1960, the highway enjoyed holding 97% of the "preferred" various modes of transportation, while air, rail, and mass transit made up the meager difference of 3%. In 1996, the highway percentage dropped from 97% to 89%, in which an increase of 8% took place in the skies. This represents a tremendous shift between two highly subsidized forms of transportation (since rail and mass transit pretty much remained stagnant).

Figure 17 (A & B). Distribution of licensed drivers by age group, 1999.





The two bar graphs in Figure 17 illustrates the increase in licensed drivers from 1969 to 1995, and the distribution of licensed drivers in 1999, by age group. While analyzing the increase in licensed drivers, a category was created for 65+. In 1969, there were 8.5 million senior citizens driving; in 1995, the number jumped to 24.2 million senior citizens driving, an increase of 182%. Overall, between the years of 1969 and 1995, there was an increase of 71% of licensed drivers. In (B), the age groups of Licensed Drivers have been distributed and singled out to illustrate the difference in numbers of licensed drivers. Age group 25-49 holds the largest numbers of drivers, 97 million. Age group 50-84 follows, with 63 million drivers. To view a line graph illustrating the sharp increase, see Figure 19.

Figure 18. Percentage of drivers within the age group of 50-84, 1999.

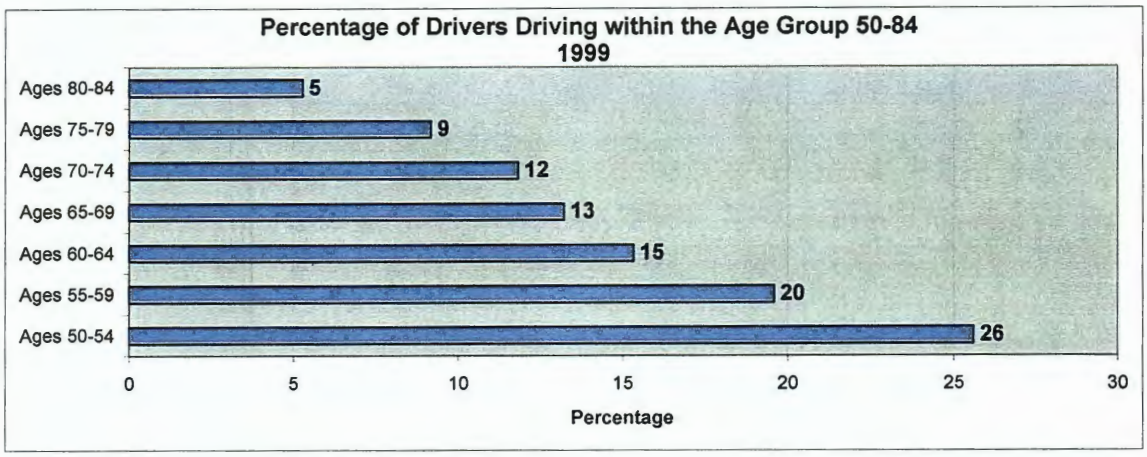


Figure 18 illustrates the percentage of drivers within the age group of 50-84. Descending in a gradual decline from the first set of ages, Ages 50-54 holds the majority of the drivers, 26%.

Figure 19. Percentage of total drivers within each age group, on the road in 1999.

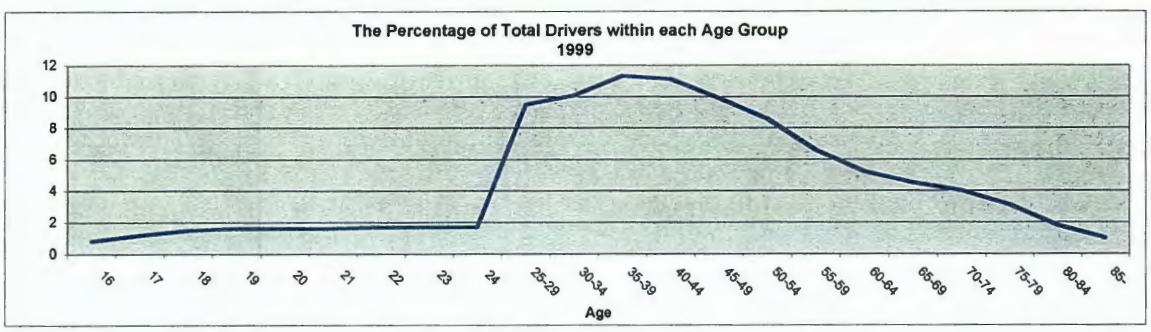
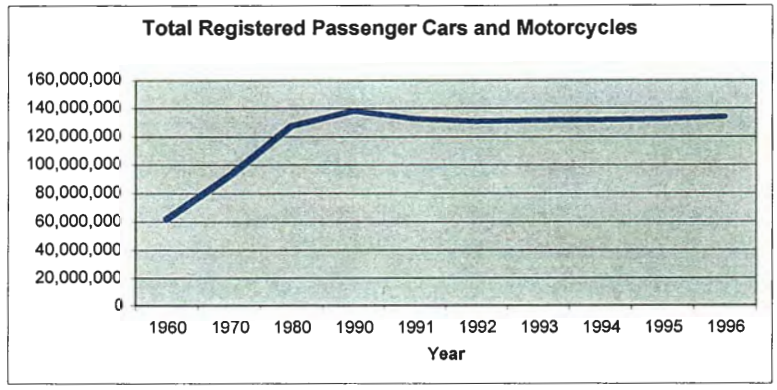


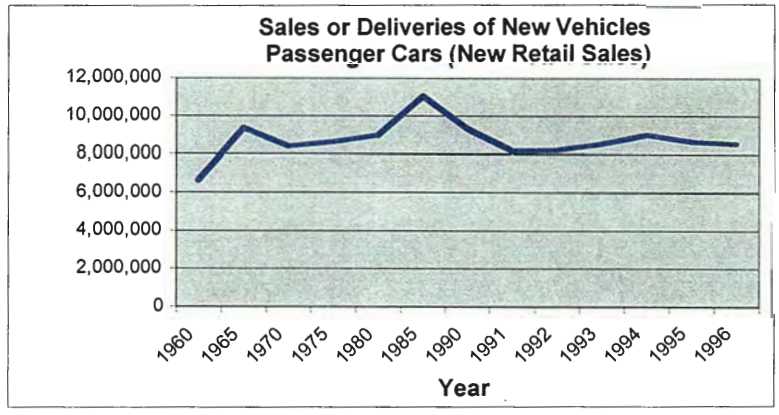
Figure 19 (spinning off of Figure 17) illustrates the sharp increase in the number of drivers between the Ages of 20-24 and the Ages of 25-29.

Figure 20. Total registered passenger cars and motorcycles on the road between 1960 and 1990.



In 1960 there were a total of 62 million passenger cars and motorcycles on the road. In 1990 the number peaked at 138 million. Although the number remained quite steady through the duration of the 1990s, the total number of passenger cars and motorcycles registered tapered off at 134 million in 1996. Overall, the number of passenger cars and motorcycles on the road increased 117%.

Figure 21. Sales or deliveries of new vehicles (passenger cars) between 1960 and 1996.



Between the years of 1960 and 1996, the deliveries of new passenger vehicles have had sharp increases and decreases in numbers. In 1960, a total of 6,641,000 vehicles were delivered. In 1985, this number peaked at 11,042,000 vehicles. However, in 1991 the delivery of vehicles fell to 8,175,000, a record low. In 1996, the numbers have increased, but remain below the 9,000,000 mark.

Figure 22. The cost of owning and operating an automobile in the United States (dollars are current).

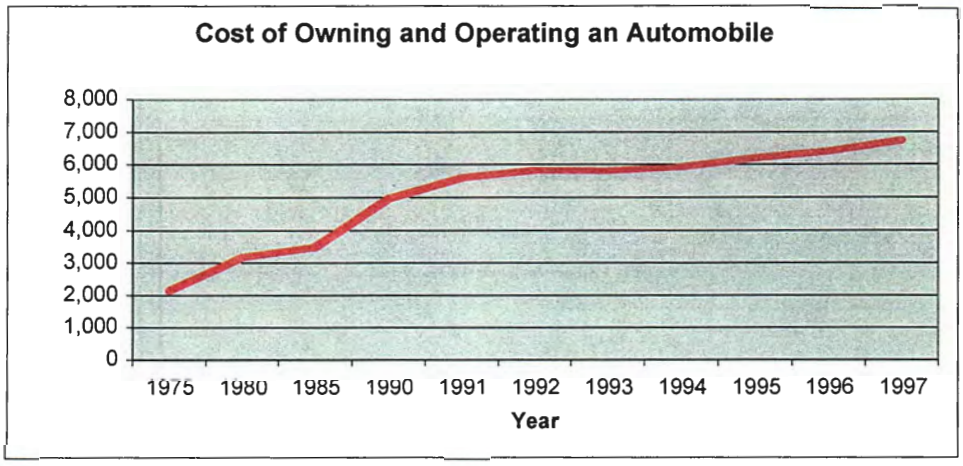
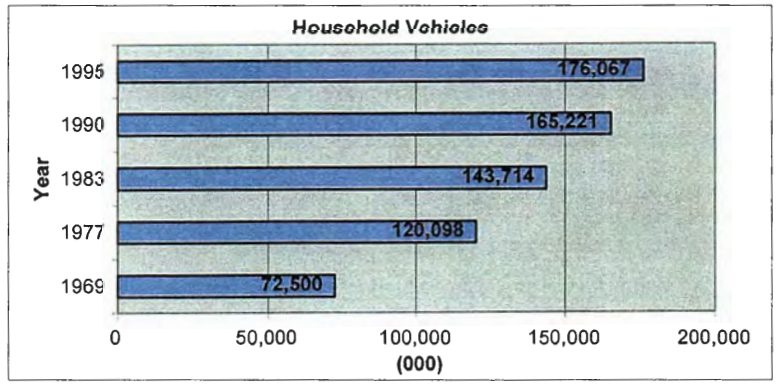
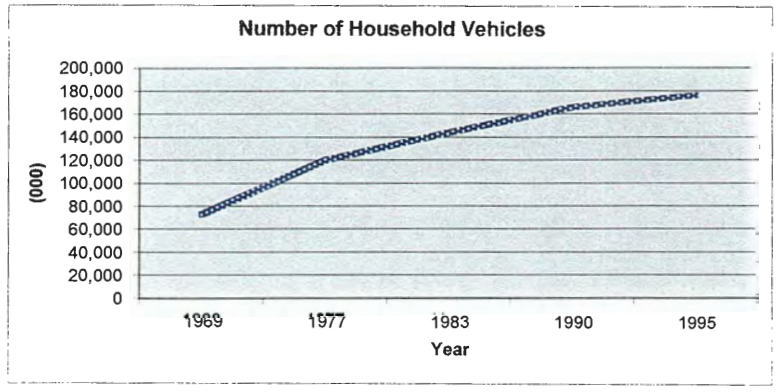


Figure 22 illustrates the sharp increase of the overall cost of owning and maintaining an automobile in the United States. This includes regular maintenance, fees, insurance, and gasoline (not accidents or major repairs). In 1975, the cost was listed at $2,154. This has number has jumped to $6,723 in 1997, a 212% increase.

Figure 23 (A & B). Household vehicles figures.





Looking at Figure 23 (A & B), the number of household vehicles in the United States has been listed for the years between 1969 and 1995. In 1969 the number of household vehicles in the United States listed 72.5 million cars. This number increased to 176 million cars in 1995. In comparing this data to Figure 21, the data tells us that the number of vehicles at each household have increased (ex: where each house used to have just two cars, now it is four). The comparison also tells us a social statement – driving is becoming too expensive for most Americans to afford.

Figure 24 (A & B). Household vehicle trips over the year.

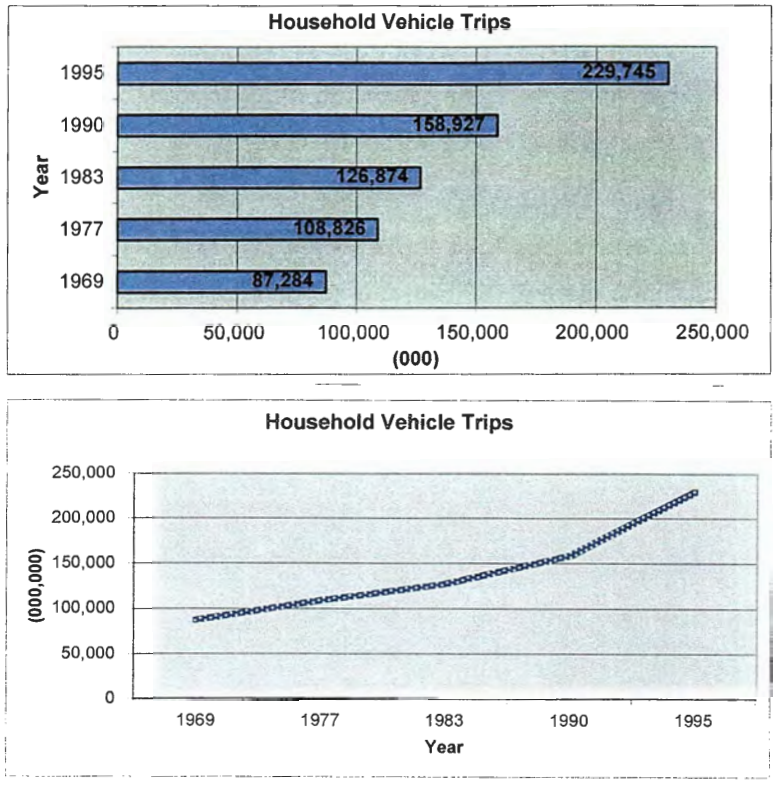
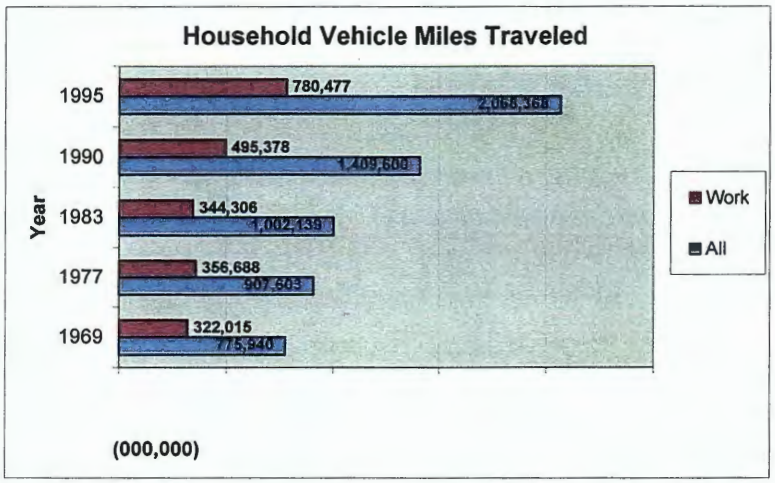
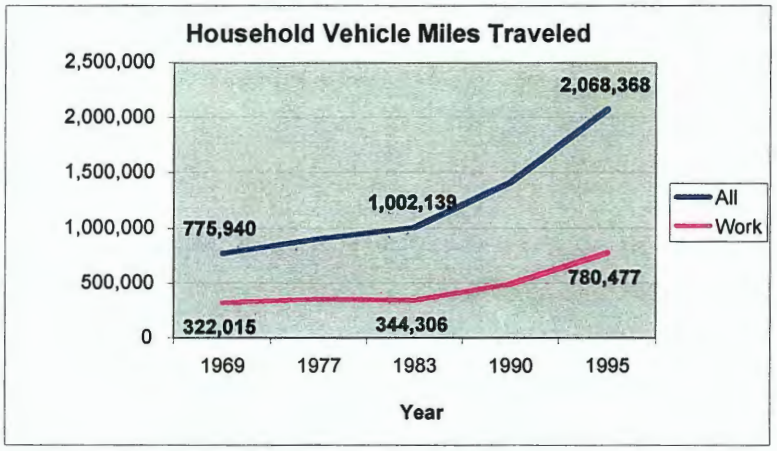


Figure 24 illustrates the dramatic increase in vehicle trips made by American throughout the years. In 1969, Americans made a total of 87,284 million trips. In 1995, this number increased to 229,745 million trips a year, an increase of 163%.

Figure 25 (A & B). Household vehicle miles traveled, and destinations between 1969 and 1999.





The six charts listed under Figure 23, Figure 24, and Figure 25 illustrate the number of household vehicles, the number of household vehicle trips, and the amount of household vehicle miles traveled.

In Figure 25 (A & B), household vehicle mileage were divided up into mileage driving to work, and mileage for the entire household. The number of household vehicle mileage has increased 142% between 1969 and 1999. When figuring out the difference of "Work" versus "All" (thus making a new category – daily and weekly household errands and activities), the amount of household vehicle mileage in this category between 1969 and 1995 increased by 183%. This category is more important than the "Work" category since it illustrates the increasing driving time for the family doing daily and weekly activities.

APPENDIX E

AERIAL PHOTOS OF THE THREE CASE STUDIES – GLENWOOD, MISSOURI VALLEY, AND WALNUT

Aerial Photos of the Three Case Studies – Glenwood, Missouri Valley, and Walnut.

The following aerial photos illustrates the case studies zoomed out and zoomed in.

Table of Contents:

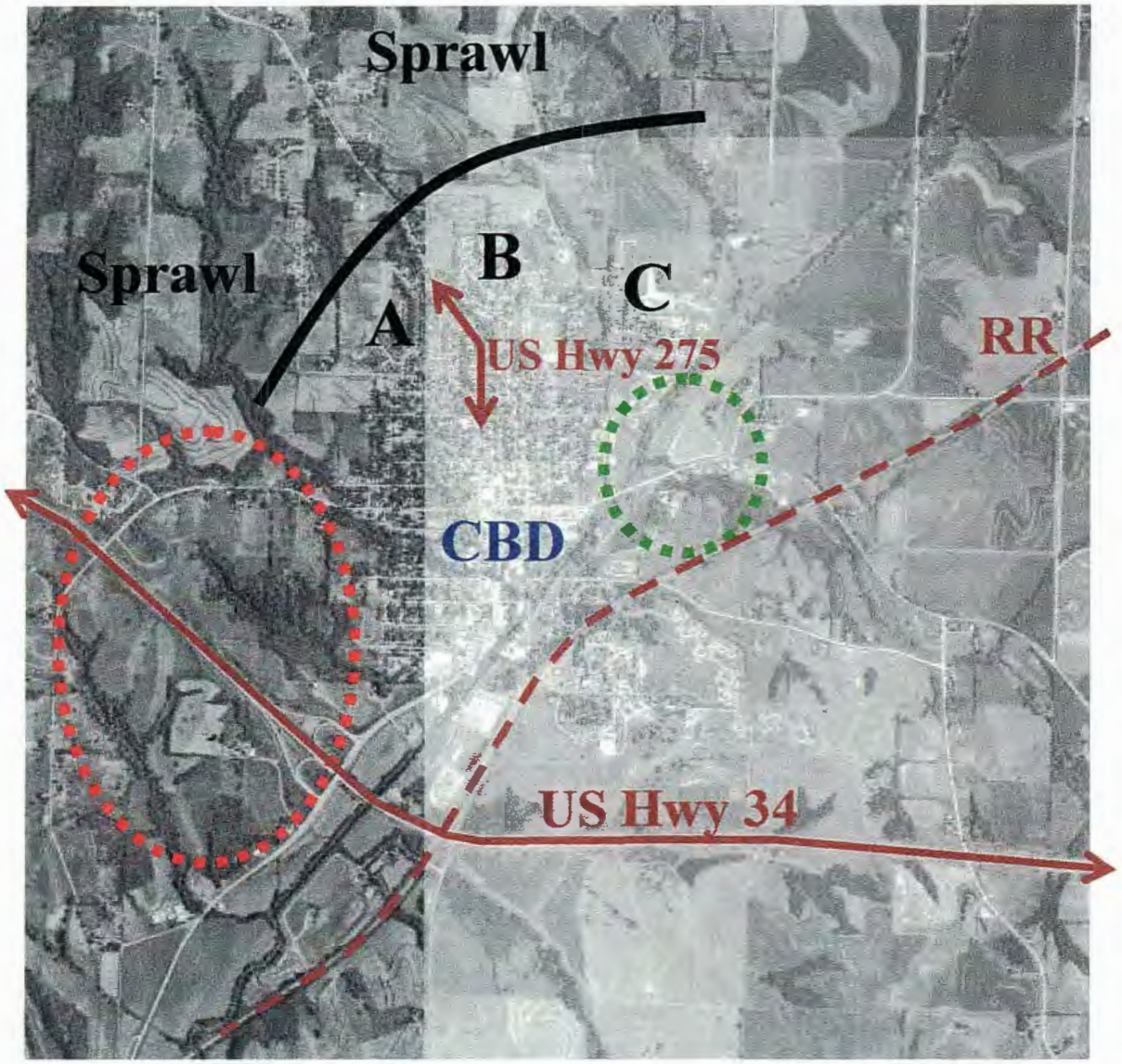
The aerial photos were downloaded off of the "Iowa State University Geographic Information Systems Support and Research Facility" website: http://www.gis.iastate.edu/homepage.html.

The aerial photos are dated within the late 1990s.

Plate One (A). Glenwood, Iowa. (The image is divided by two different contrasts due to the different flights taken to produce this layout).

See next page for description.

Plate (B). Glenwood, Iowa.



In looking at aerial photo Plate One (B) of Glenwood, a mile buffer of farmland can be seen surrounding the city. To the north and west of Glenwood is the scenic Loess Hills, in which sprawl is currently taking place in. The four lane US Hwy 34 cuts immediately underneath Glenwood, giving the city it's physical southern boundary; while the railroad tracks running almost parallel to Keg Creek helps "define" the city's eastern boundary.

Running through the middle of Glenwood in a north to south direction is US Hwy 275; to the north of Glenwood US Hwy 275 turns towards the northwest as it navigates its way north of the city's limits. Glenwood's Central Business District is located one block east of US Hwy 275, north of Sharp Street (Old US Hwy 34). Outside of the built-up portion of Glenwood to the east, between Keg Creek and the railroad tracks, is the recreational area of Glenwood.

The three subdivisions within Glenwood have been labeled a number to help the viewer identify each one on the photo. Letter A, Glenbrook, is located west of US Hwy 275 and north of 6th Street. Letter B, Jens and Owens, is located off the northwestern corner of the elementary school. Last but not least, letter C, Golfview, is located east of Linn Street (east of the elementary school), and is surrounded by Linn Street and 4th Street. The high school is south of Golfview.

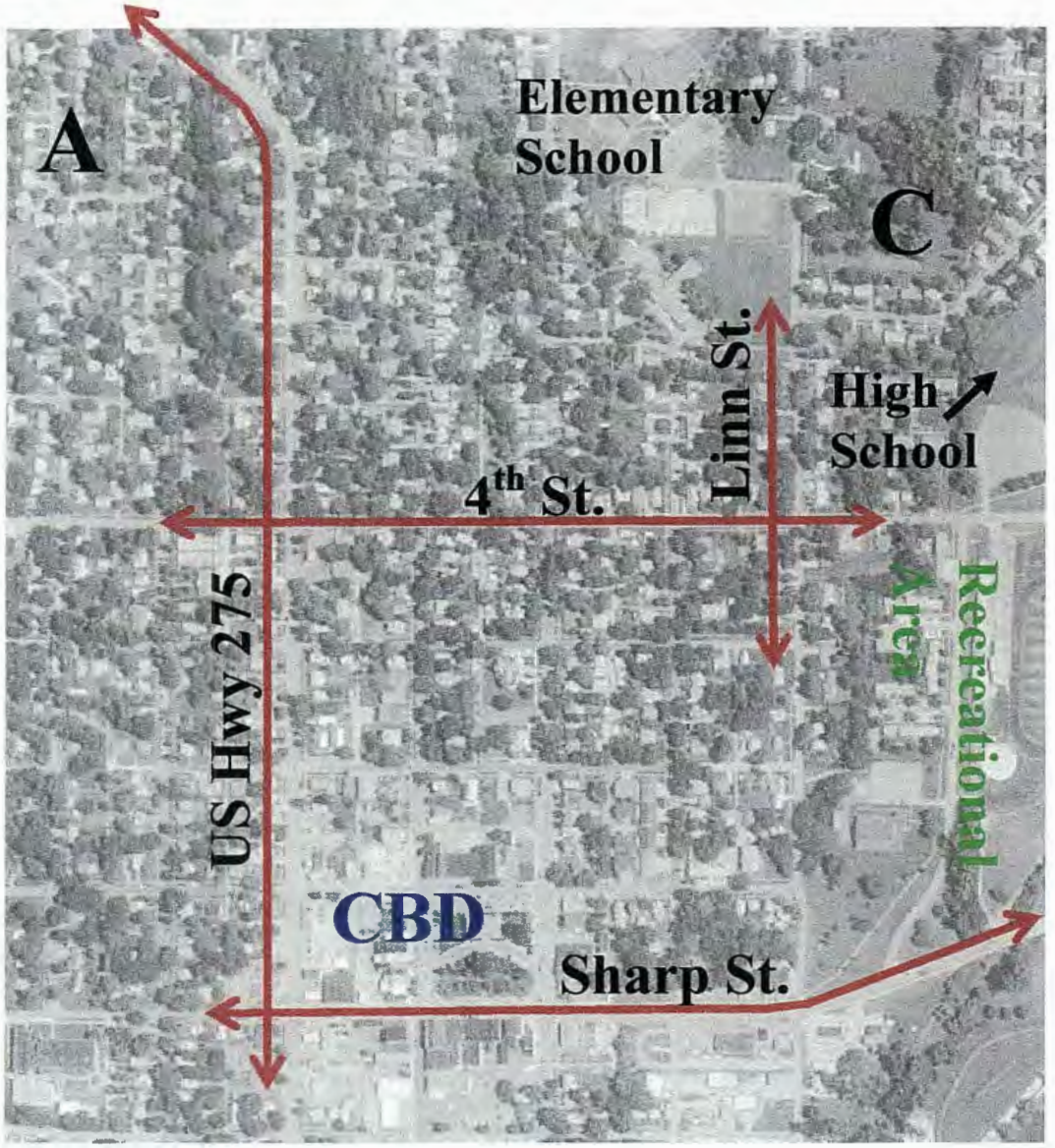
The area marked by a red dotted oval represents green space that has not yet been developed – but could be threatened in the near future. The area marked by a green dotted oval represents Glenwood recreational area.

See Plate Two (B), for a close-up aerial photo of the area north of the Central Business District.

Plate Two (A). Glenwood, Iowa. Close up on the area north of the Central Business District.

See next page for description.

Plate Two (B). Glenwood, Iowa. Close up on the area north of the Central Business District.

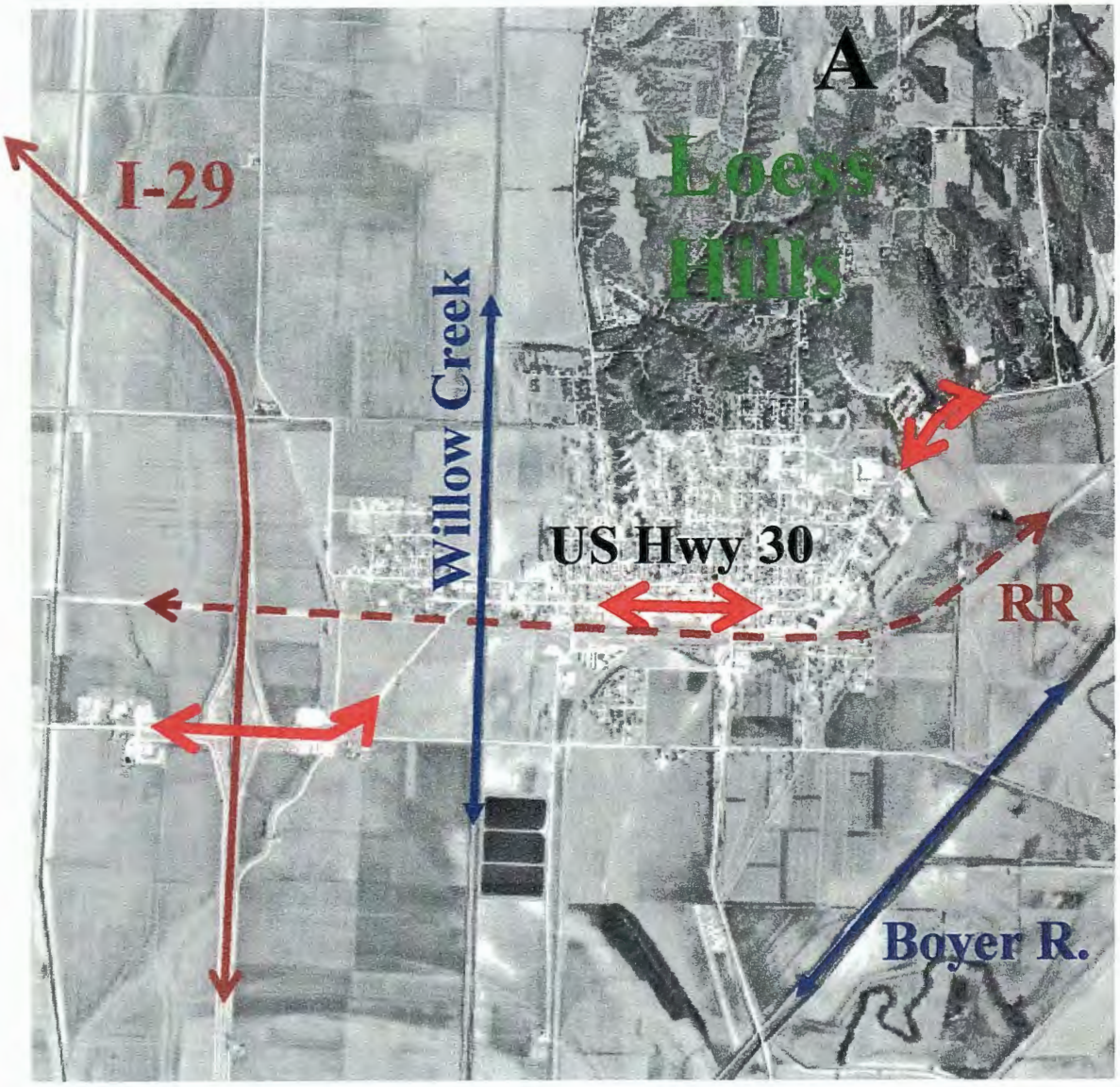


In looking at aerial photo Plate Two (B), Glenwood's neighborhood north of the Central Business District have been zoomed in. To the west of the subdivision Golfview (letter C), is Glenwood's elementary school. To the south of Golfview is the high school. Not seen in the aerial photo is the Jens and Owens subdivision, which is located north of the elementary school. 4th Street has been identified on the photo, since it is the first east to west street from the north. Because of this, 4th Street has high traffic counts due to the elementary school and the lack of access roads for both subdivisions (Golfview and Jens and Owens) wishing to access US Hwy 275. To the west of US Hwy 275 is the Glenbrook subdivision (letter A). Respecting the gridiron network of streets, the Central Business District is completely encased by the "grid" layout.

Plate 3 (A). Missouri Valley, Iowa.

See next page for description.

Plate 3 (B). Missouri Valley, Iowa.



In studying aerial photo Plate Three (B) of Missouri Valley, a sharp distinction between the farmland and Loess Hills is provided. The farmland is completely flat and engineered looking, while the Loess Hills has been "outlined" with a white chalk road, as if the hills are being "claimed for," or are being protected by floodwaters or some other kind of phenomenon. The reason for the farmland being flat and engineered looking is because all of this was actually a swamp before the 1900s. Located between the Loess Hills and the Missouri River, this area was a swamp due to the heavy and unpredictable drainage out of the Loess Hills, combined with the occasional flooding from the Missouri River in the spring and summer. In the early 1900s (when the settlers arrived), all of the rivers stemming from the Loess Hills were either given new channels or straightened out, and then they were all levied. As the land dried, farming was welcomed in the area. The Willow Creek and Boyer River

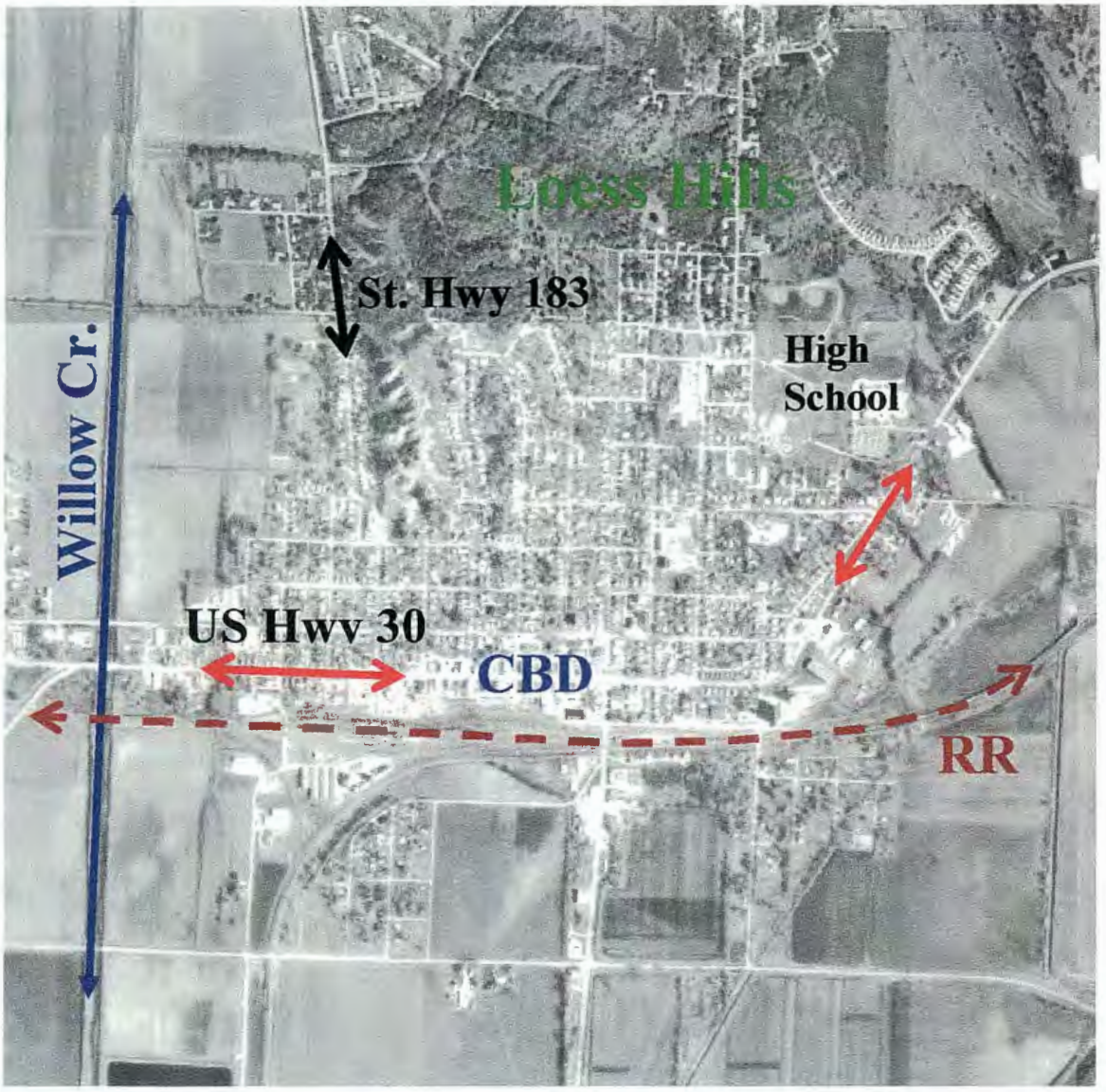
has been identified on the aerial photo; due to the channeling of the Boyer and Willow, the channels are perfectly straight (if not known they were "ditches," they could easily be mistaken as railroad tracks).

Because of the risk of flooding off of the Boyer and Willow River, ninety percent of the built-up portion of the City of Missouri Valley hugs the south "toe" of a Loess Hill. Since the Loess Hills topography is steep, the city climbs a very steep grade. As a result, the city has not been able to fully expand north. Furthermore, because of the railroad tracks and floodplains, the city has not been able to grow physically towards the south and west as well. However, growth still occurs, by sprawl within the Loess Hills. Because of the nature of exurbia housing (large acreage housing), sprawl has been a realistic and threatening issue for the city within the last ten years. Just recently, Eagle Ridge development has opened within the top of the Loess Hills (identified by letter A). Notice the availability and number of access roads to town, they're poor in design and capabilities.

Plate 4 (A). Missouri Valley, Iowa. Close up.

See next page for description.

Plate 4 (B). Missouri Valley, Iowa. Close up.

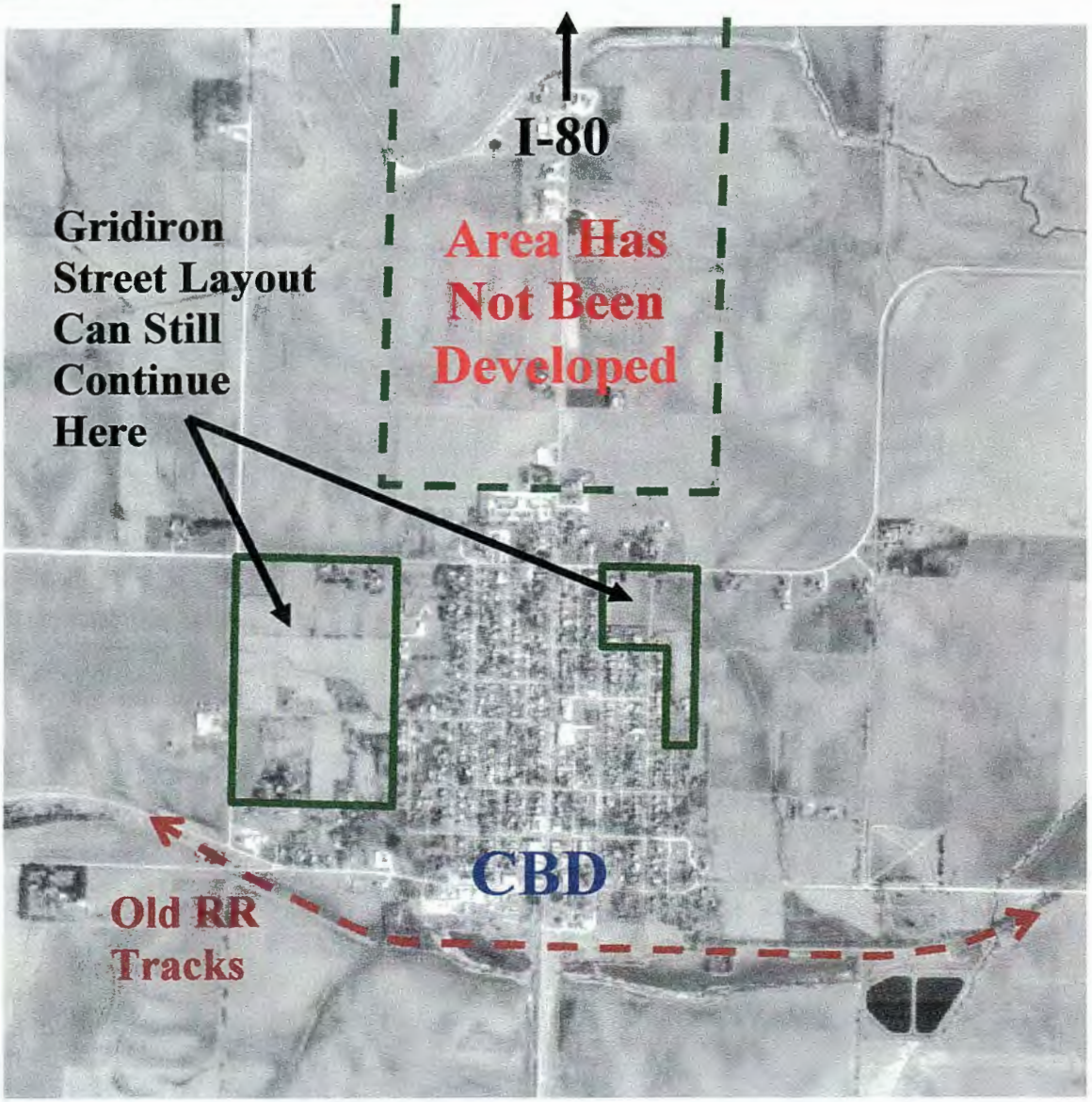


In studying Plate 4 (B), Missouri Valley built-up portion has been zoomed in. The Central Business District straddles US Hwy 30, which runs parallel to the Union Pacific railroad tracks. Because of the Boyer River and Union Pacific railroad tracks, the city's growth has predominantly occurred north of the CBD. The hospital, school, and nursing homes are all located behind the CBD, within the gridiron network of streets. State Hwy 183 has been identified, since it is one of the two collector roads serving the sprawl currently taking place within the Loess Hills. The other collector road is Liberty Ave (running right between the I and L in Hills, of the "Loess Hills").

Plate 5 (A). Walnut, Iowa.

See next page for description.

Plate 5 (B). Walnut, Iowa.



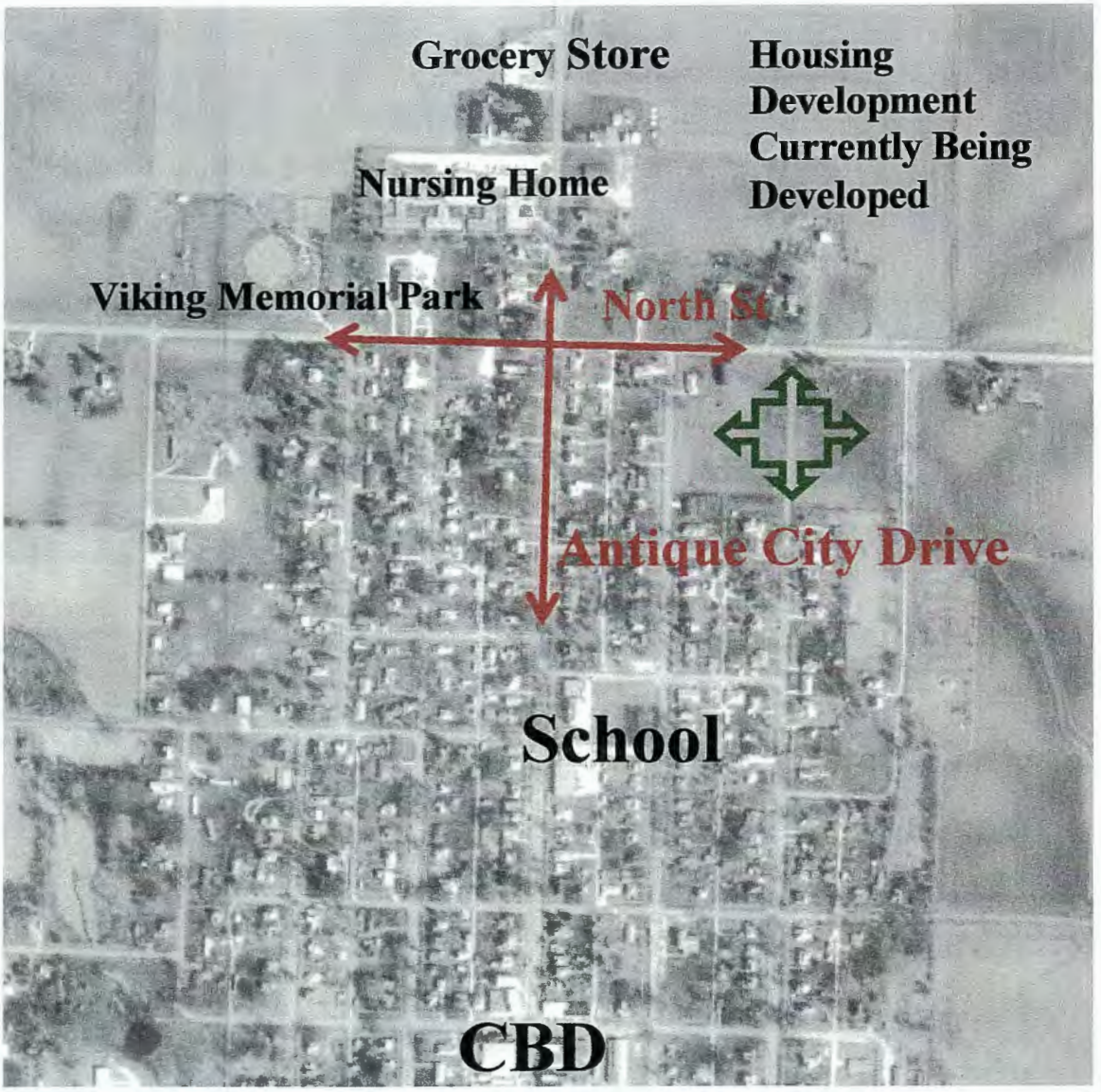
In analyzing Plate 5 (B), Walnut has over the years remained intact from any type of fringe development. Within the last ten years, development began to occur out on the I-80 interchange. A McDonalds and an Amoco opened, and the Super 8 motel expanded. The only fringe development that has happened within the built-up portion of Walnut is north of North Street (County Rd G16), where a nursing home and a grocery store are located. Despite being located outside of the built-up portion, sidewalks do serve these to destinations. The Central Business District is located on the south side of Walnut, where the "Main Street" used to form a "T" junction with the railroad tracks. Although the railroad tracks are no longer there, the outline remains.

Within the green boxes is where the town could continue its gridiron network of streets to preserve its small town design.

Plate 6 (A). Walnut, Iowa. Close up north of Central Business District.

See next page for description.

Plate 6 (B). Walnut, Iowa. Close up north of Central Business District.



In studying Plate 6 (B), the area north of Walnut's CBD has been zoomed in. Walnut's school has been identified, as well as the nursing home and grocery store. The gridiron network of streets provides all areas of the community to be pedestrian friendly, even the new housing development currently being developed north of North Street.

The green block of areas rests on an area within Walnut where a continuation of gridiron streets has actually been mapped out by platters, to be filled in with housing as growth occurs. However, as stated above a subdivision development is occurring north of North Street, within this area. Although a subdivision development is occurring here, it does respect the existing fabric of Walnut; and if the area marked by the green arrows should ever be developed – it will actually act as a smooth transition between the *altstadt* of Walnut and the new subdivision development north of North Street.